Product Training Guide

Media Receiver
PDP-R03U

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Pioneer

SERVICE

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Preface

This technical training guide will address the disassembly and adjustments of the Pioneer PDP-R03U Media receiver
This guide was designed as a servicing aid and is not intended to replace the service manual. The student should have the appropriate service manual on hand when when using this guide. Data in the service manual for this unit contains specific information on safety, parts and adjustments.

Safety information

Important safety data for this Pioneer model is contained in the service manual. Before returning the unit to the customer, complete all product safety obligations and tests. Technicians who bypass safety features or fail to carry out safety checks may expose themselves and others to possible injury, and may be liable for any resulting damages.

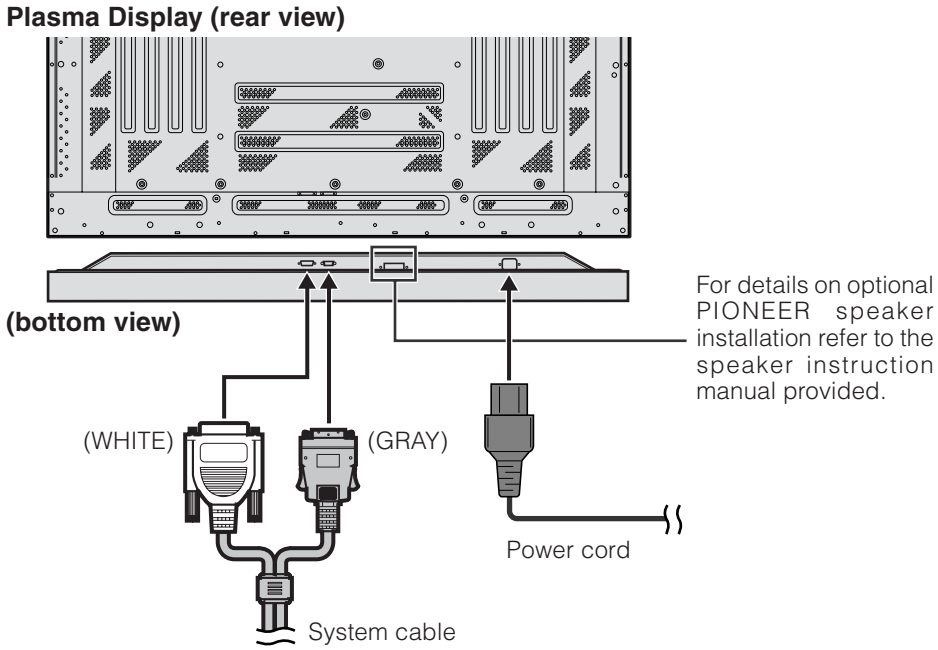
For more information on electronic circuits and block diagrams refer to Service manual ARP3113.

Lead in the solder used in this product is a known reproductive toxicant which may cause birth defects or other reproductive harm. (California Health and Safety Code Section 25249.5).

When servicing this or handling circuit boards and other components which contain solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

Connecting the system

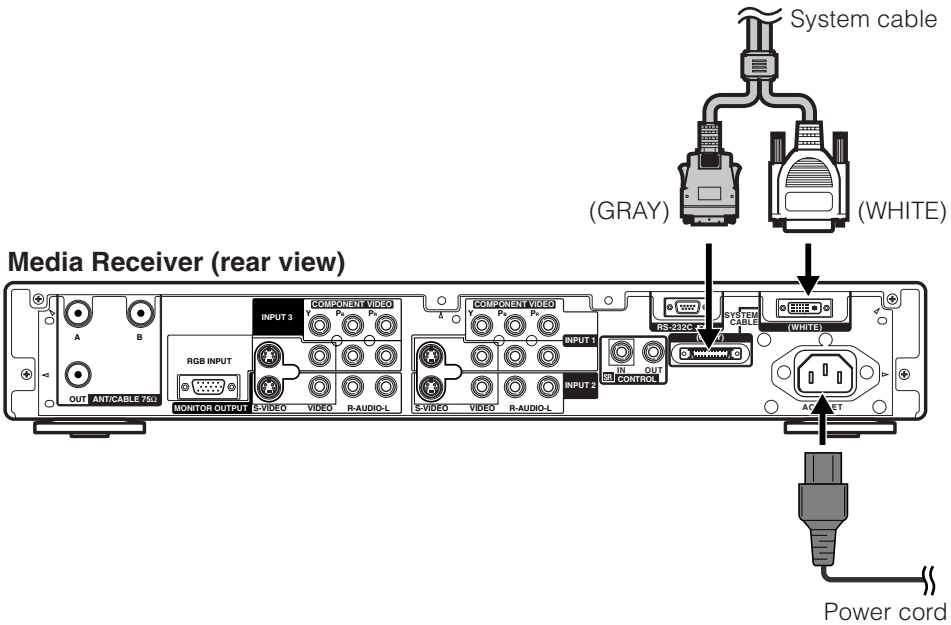
1. Connecting the system cable and the power cord to the Plasma Display



CAUTION

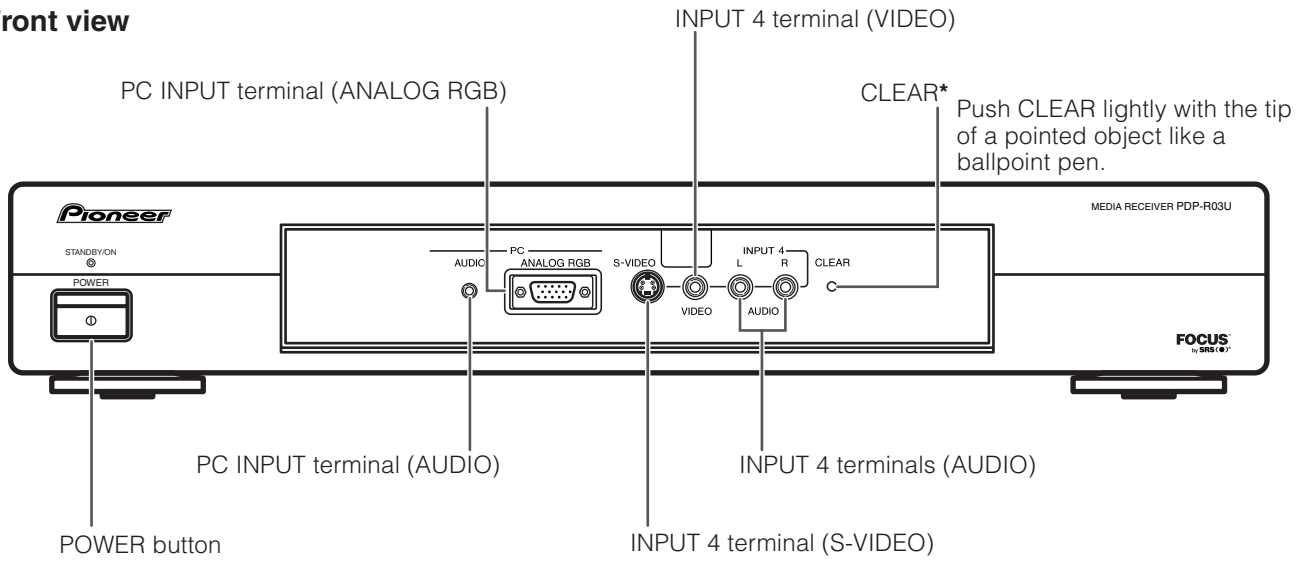
- **THESE SPEAKER TERMINALS CAN BE UNDER HAZARDOUS VOLTAGE WHEN YOU CONNECT OR DISCONNECT THE SPEAKER CABLES. TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT TOUCH UNINSULATED PARTS BEFORE DISCONNECTING THE POWER CORD.**

2. Connecting the system cable and the power cord to the Media Receiver



Media Receiver

Front view



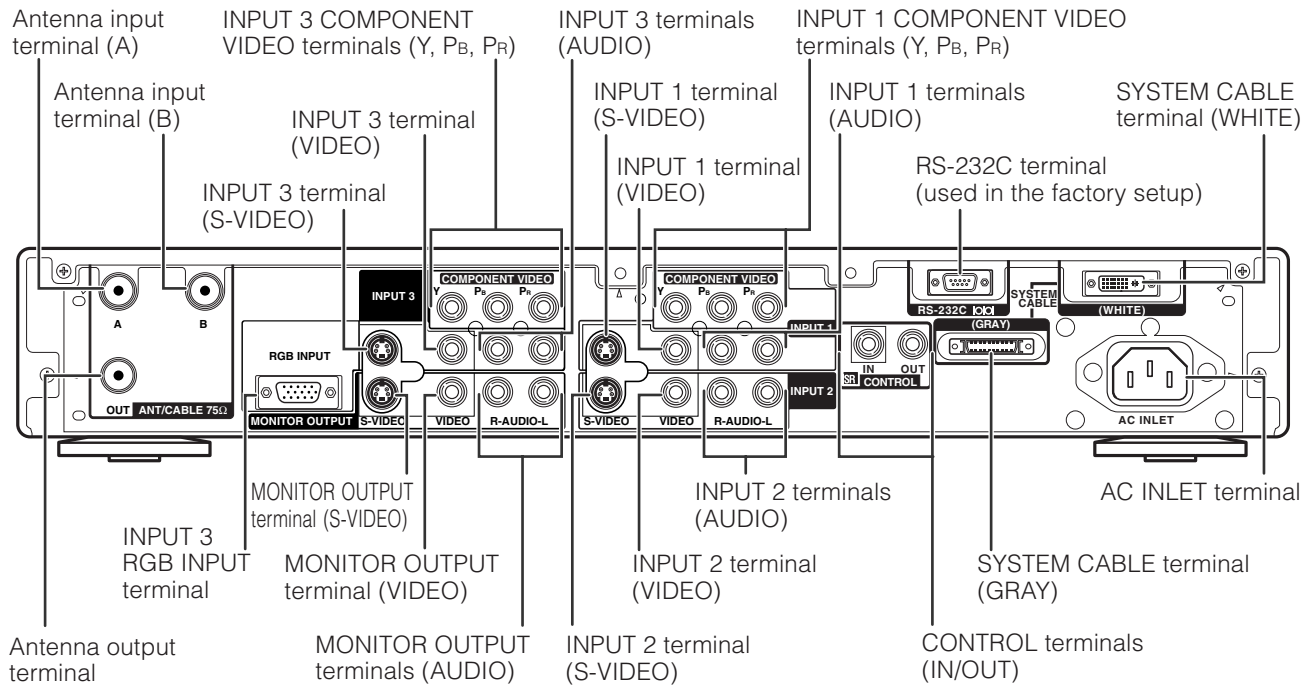
***** If you're having problems operating the Media Receiver and want to return to normal screen, even when it stays on (the indicator lights green), press **CLEAR** on the Media Receiver. Pressing **CLEAR** resets the System as shown below.

- AV SELECTION resets to STANDARD
- TV channel returns to initial channel setting(Air:2ch, Cable:1 or 2ch)
- Multiscreen resets to normal
- Audio setting initializes
- SRS resets to Off.
- Image position initializes

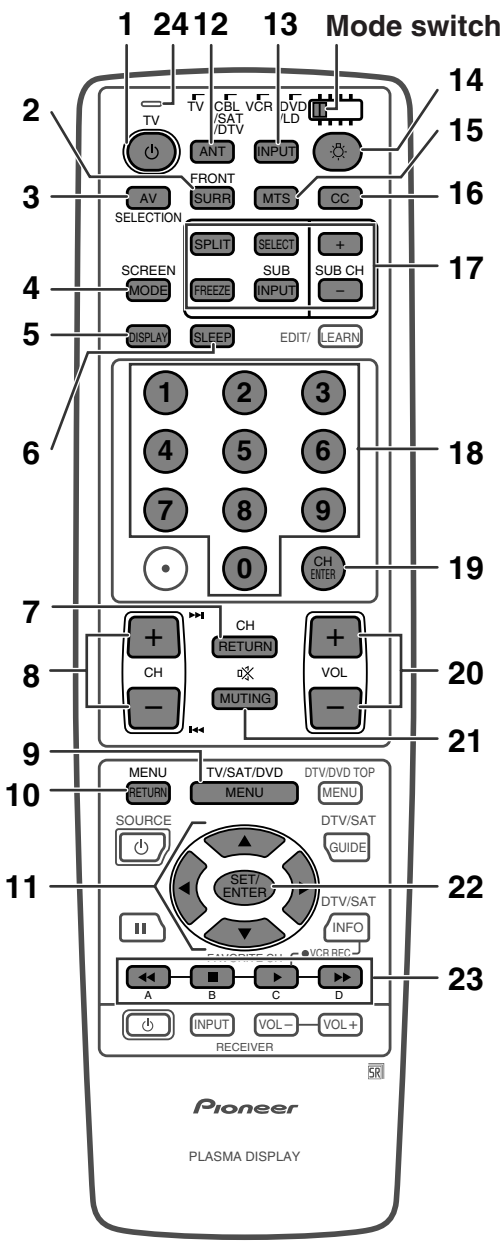
NOTE

- Pressing **CLEAR** will not work if the System is in standby mode but the indicator lights red.
- Pressing **CLEAR** will not delete channel preset or secret number.

Rear view



Remote control unit



NOTE

- When using the remote control unit, point it at the Plasma Display.

1 **TV ⏻:** Switch the Plasma Display power on or off.

2 **FRONT SURR:** Set SRS and FOCUS Sound System.

3 **AV SELECTION:** Select an audio or video setting.
(AV mode: STANDARD, DYNAMIC, MOVIE, GAME, USER.
PC mode: STANDARD, USER.)

4 **SCREEN MODE:** Select the screen size.

5 **DISPLAY:** Display the channel information.

6 **SLEEP:** Set the SLEEP timer.

7 **CH RETURN:** Return to the previous channel.

8 **CH +/–:** Select the channel.

9 **MENU:** Display the menu screen.

10 **MENU RETURN:** Return to the previous menu screen.

11 **▲/▼/◀/▶:** Select a desired item on the setting screen.

12 **ANT:** Select the antenna. (A, B)

13 **INPUT:** Select an input source of the Plasma Display.
(TV, INPUT 1, INPUT 2, INPUT 3, INPUT 4, PC)

14 **☼:** When pressed all buttons on the remote control unit will light. The lighting will turn off if no operations are performed within about 5 seconds. This button is used for performing operations in dark places.

15 **MTS:** Select the MTS/SAP.

16 **CC:** Display captions during closed-caption source.

17 **Dual picture mode select buttons**
SPLIT: Set the dual picture mode. Press again to return to normal screen.
FREEZE: Set the still image. Press again to return to normal screen.
SELECT: Select the active screen.
SUB INPUT: Select an input source of sub screen.
SUB CH +/–: Select the channel of sub screen.

18 **0 – 9:** Set the channel.

19 **CH ENTER:** Execute a channel number.

20 **VOL +/–:** Set the volume.

21 **MUTING:** Mute the sound.

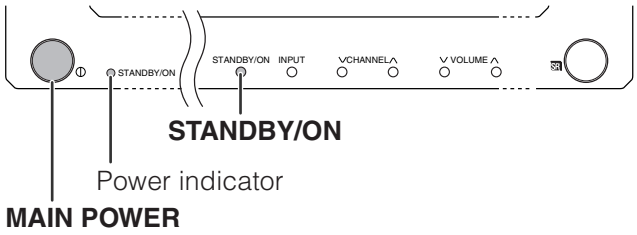
22 **SET/ENTER:** Execute a command.

23 **FAVORITE CH**
A, **B**, **C**, **D:** Select any of four preset channels.

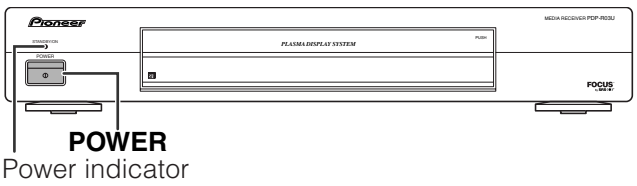
While watching you can toggle the set channels by pressing A, B, C and D.

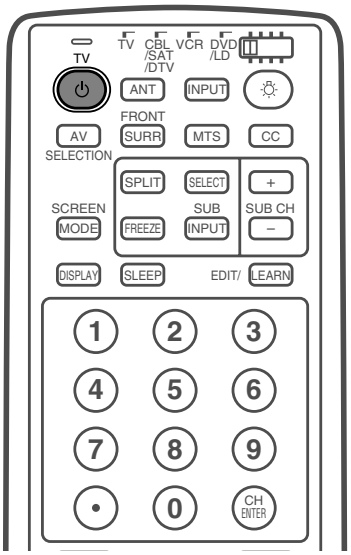
24 **LED for transmission confirmation**

Plasma Display



Media Receiver





Turning on the power

1 Press **MAIN POWER** on the Plasma Display.
- The power indicator on the Plasma Display flashes red.

2 Press **POWER** on the Media Receiver.
- The System turns the power on.
- The power indicators on the Plasma Display and Media Receiver lights up green.
- If the power indicators still light up red, press **TV** ⏻ on the remote control unit or **STANDBY/ON** on the Plasma Display to turn the System on.

First time turning on Media Receiver

1 Press **POWER** on the Media Receiver.
- The power indicator on the Media Receiver lights up red.

2 Press **MAIN POWER** on the Plasma Display.
- The System turns the power on.
- The power indicators on the Plasma Display and Media Receiver lights up green.
- If the power indicators still light up red, press **TV** ⏻ on the remote control unit or **STANDBY/ON** on the Plasma Display to turn the System on.

NOTE
- In this manual, "System" mean the Plasma Display Panel and Media Receiver.

Turning off the power

1 Press **TV** ⏻ on the remote control unit or **STANDBY/ON** on the Plasma Display.
- The System enters standby mode and the image on the screen disappears.
- Both power indicators change from green to red.

2 Press **POWER** on the Media Receiver.
- The power indicator on the Media Receiver turns off and the one on the Plasma Display flashes red.

3 Press **MAIN POWER** on the Plasma Display.
- The power indicator on the Plasma Display turns off after approximately 5 seconds.

NOTE
- If you are not going to use this System for a long time, be sure to remove the Power cord from the power outlet.

Plasma Display status indicators

Off	Power off
Flashing red	Media Receiver does not turn on or its power cord is disconnected.
Red	The Plasma Display System is in standby mode.
Green	The Plasma Display System turns the power on.

Media Receiver status indicators

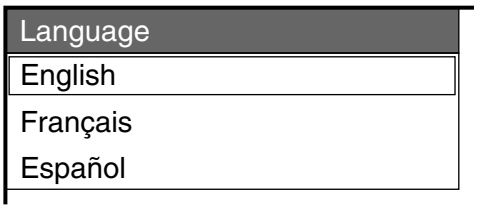
Off	Power off
Red	Only the Media Receiver is in standby mode or the Plasma Display System is in standby mode.
Green	The Plasma Display System turns the power on.

Initial auto installation

When you turn on the Plasma Display System for the first time, it will automatically memorize the broadcasting channels where you live. Perform the following steps before you press **TV** ⏻.

1. Insert the batteries into the remote control unit.
2. Connect the antenna cable to the Media Receiver.
3. Plug in the power cord to the wall outlet.

Language menu

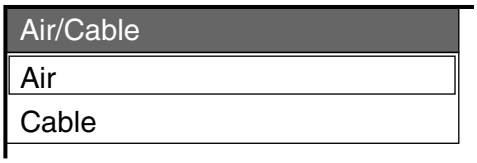


1. Setting a language

① Press ▲/▼ to select the desired language listed on the screen.

② Press **SET/ENTER** to enter the setting.

Antenna menu

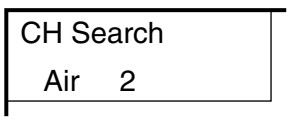


2. Setting the antenna mode

① Press ▲/▼ to select “Air” or “Cable” on the screen.

② Press **SET/ENTER** to enter the setting.

Searching TV channels



3. Automatic channel searching

Channel auto search makes the Plasma Display System look for all channels viewable in the set area.

NOTE

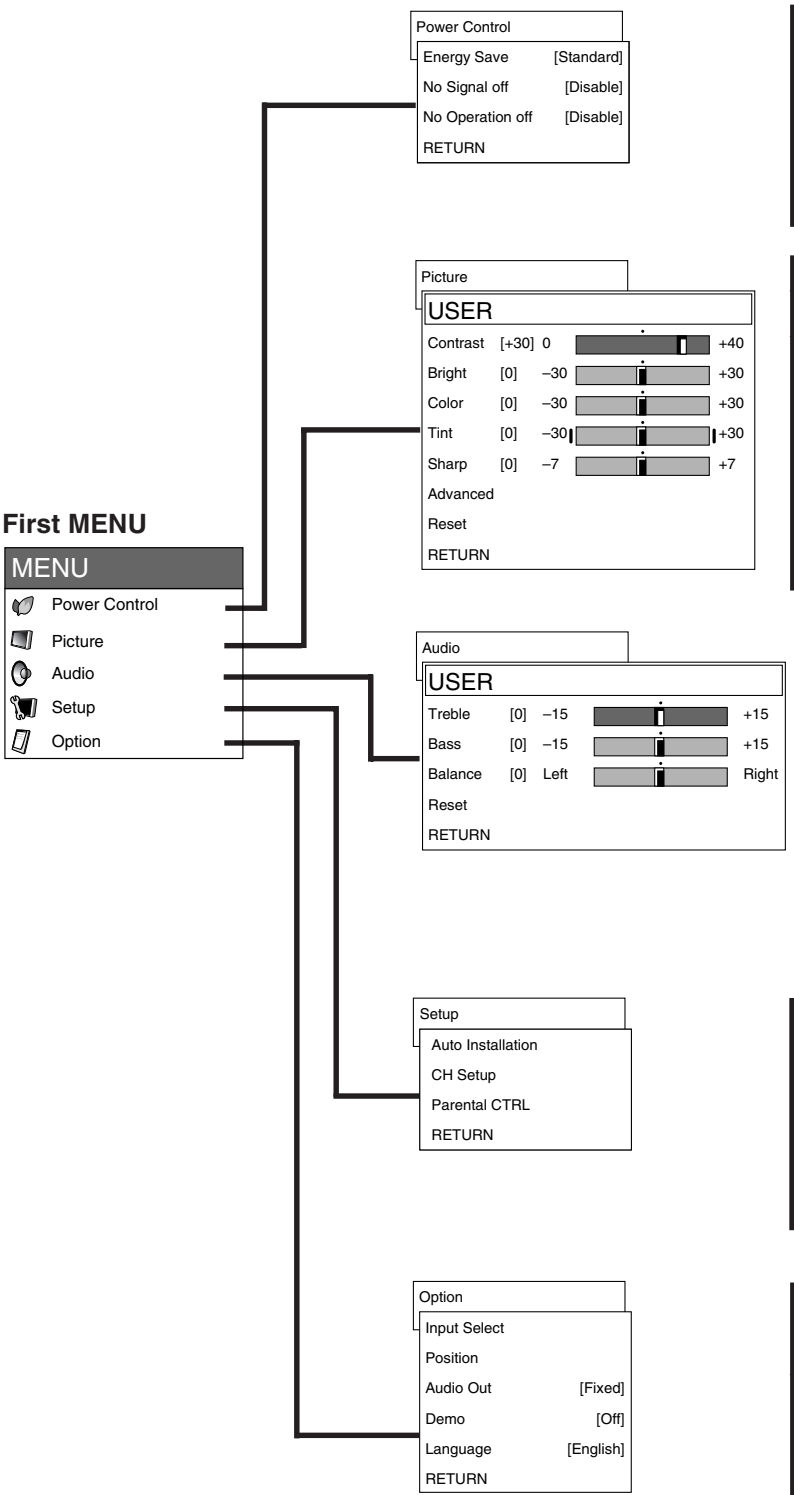
- If no channel is found, “No program found. Is antenna connected properly?” displays. And the auto channel search finishes.

- Channel search function is available for ANT-A only.
- ANT-B cannot perform channel search.
- You may need to manually add the CABLE Converter output channel setting (fixed), when connecting the CABLE Converter output signal to the B terminal (ANT/CABLE 75Ω) on the Media Receiver (Rear).

Basic adjustment settings

AV mode menu items

List of AV menu items to help you with operations.



MENU	Description
Energy Save	Save power by decreasing picture brightness.
No Signal off	System automatically shuts down if no signal inputs for 15 minutes.
No Operation off	System automatically shuts down if you do not operate the System for 3 hours.

MENU	Description
Contrast	Adjusts the picture between light and shade.
Bright	Adjusts picture brightness.
Color	Adjusts color intensity.
Tint	Adjusts skin color to a more natural tone.
Sharp	Adjusts picture sharpness.
Advanced	Adjusts color temperature, black, 3D-Y/C and black & white and PureCinema.
Reset	All image adjustment settings return to the factory preset values.

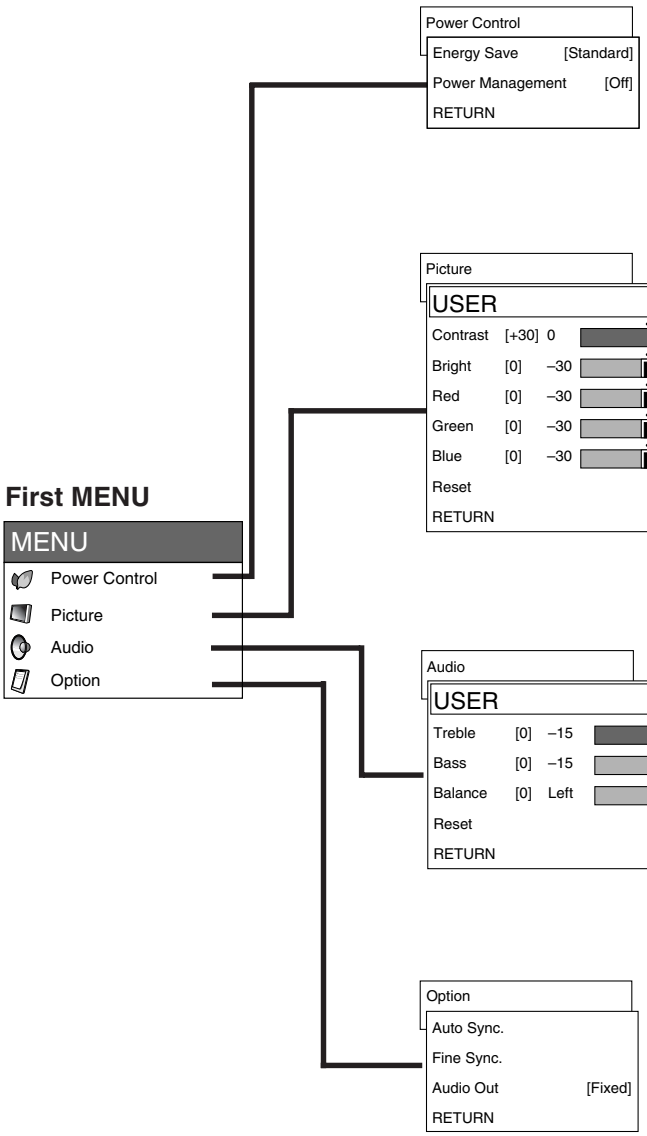
MENU	Description
Treble	Adjusts the treble weaker or stronger.
Bass	Adjusts the bass weaker or stronger.
Balance	Adjusts audio output between left and right speakers.
Reset	All audio adjustment settings return to the factory preset values.

MENU	Description
Auto Installation	Automatically memorizes the broadcasting channels where you live.
CH Setup	Sets the channel preset.
Parental CTRL	Sets a secret number to restrict operations.

MENU	Description
Input Select	Select the kind of input signal of each input source.
Position	Adjusts the horizontal/vertical position of the image displayed.
Audio Out	Select the type of monitor output. You can adjust volume for the main speaker or monitor output.
Demo	Demonstration setting for storefront displays.
Language	Select the on screen display language.

PC mode menu items

List of PC menu items to help you with operations.



MENU	Description
Energy Save	Save power by decreasing picture brightness.
Power Management	System automatically shuts down if you set the time. Select Mode1 or Mode2.

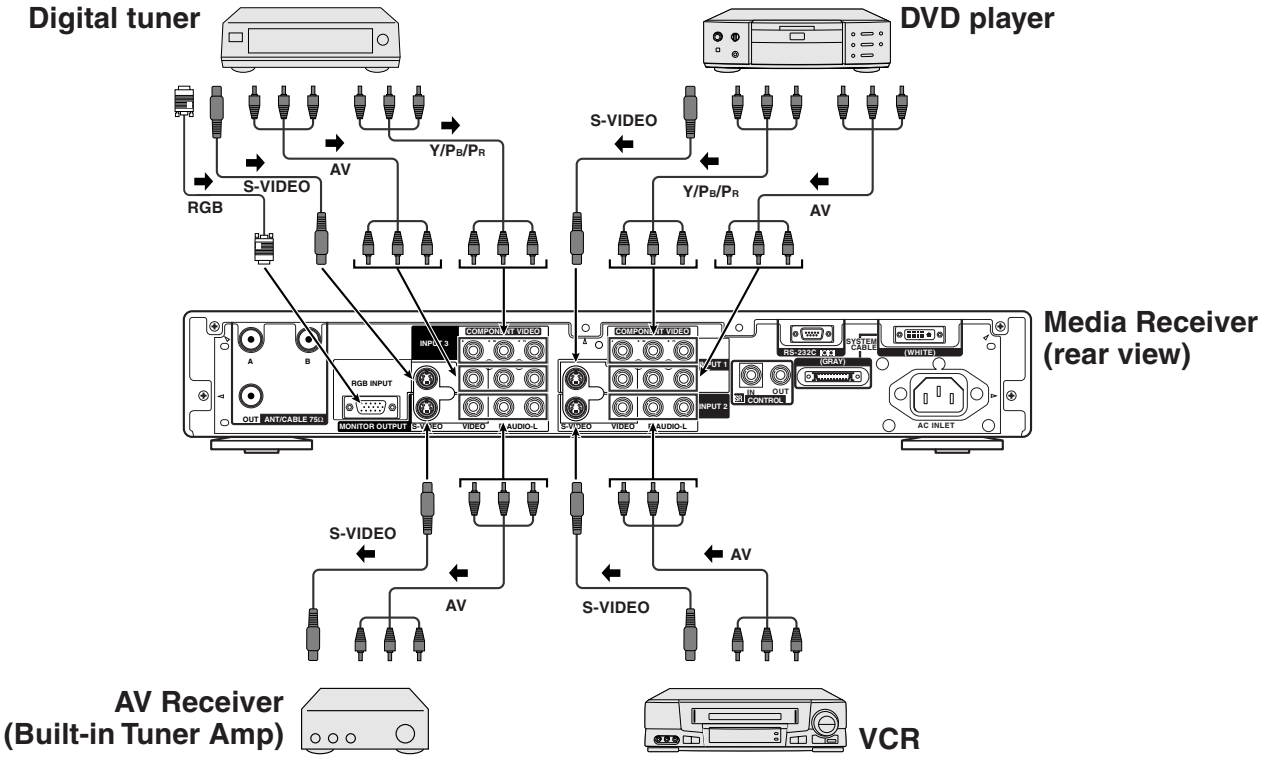
MENU	Description
Contrast	Adjusts the picture between light and shade.
Bright	Adjusts picture brightness.
Red	Adjusts red color intensity.
Green	Adjusts green color intensity.
Blue	Adjusts blue color intensity.
Reset	All image adjustment settings return to the factory preset values.

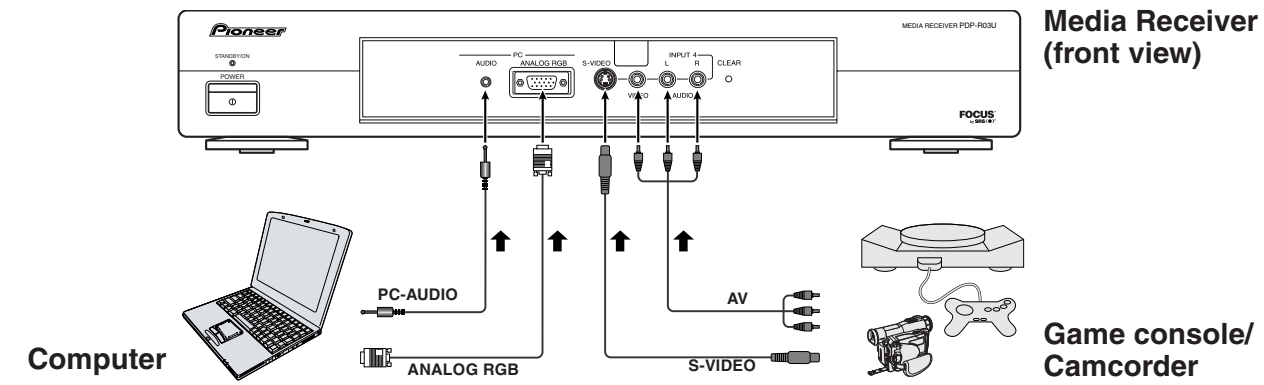
MENU	Description
Treble	Adjusts the treble weaker or stronger.
Bass	Adjusts the bass weaker or stronger.
Balance	Adjusts audio output between left and right speakers.
Reset	All audio adjustment settings return to the factory preset values.

MENU	Description
Auto Sync.	Provides a clear input image.
Fine Sync.	Adjusts image H-Pos, V-Pos, clock and phase.
Audio Out	After selecting type of monitor output, adjusts the volume of the main speaker or monitor output.

Using external equipment

You can connect many types of external equipment to your Plasma Display System, like a DVD player, VCR, Digital tuner, computer, game console and camcorder. To view external source images, select the input source from **INPUT** on the remote control unit or on the Plasma Display.





CAUTION

- To protect all equipment, always turn off the Media Receiver before connecting to a DVD player, VCR, Digital tuner, computer, game console, camcorder or other external equipment.

NOTE

- Please refer to the relevant operation manual (DVD player, computer, etc.) carefully before making connections.

Parental control (setting V-CHIP level)

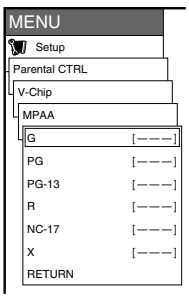
V-CHIP is an electronic filtering device built into your System. This tool gives parents a great degree of control over broadcasts accessed by their children. It allows parents to select programs judged suitable for child viewing while blocking ones judged not suitable. It does so automatically once you activate the V-CHIP feature in your Plasma Display.

V-CHIP and Status will not be selectable from the menu if you do not first configure your secret number.(See page 52 for Secret number setting for parental control.)

- The U.S. has two rating systems for viewing content: TV Parental Guidelines and movie ratings.
- The TV Parental Guidelines work in conjunction with the V-CHIP to help parents screen out inappropriate television shows from their children.
- Movie ratings are used for original movies rated by the Motion Picture Association of America (MPAA) as watched on cable TV and not edited for television. The V-CHIP can also be set to block MPAA-rated movies

Voluntary movie rating system (MPAA)

Rating		Description
Age	G	General audiences. All ages admitted.
	PG	Parental guidance suggested. Some material may not be suitable for children.
	PG-13	Parents strongly cautioned. Some material may be inappropriate for children under 13.
	R	Restricted. Under 17 requires accompanying parent or adult guardian (age varies in some jurisdictions).
	NC-17	No one 17 and under admitted.
	X	A rating that has now been superseded by NC-17.



EXAMPLE

- If you select “PG-13”, this will automatically block the higher ratings “R”, “NC-17” and “X”.

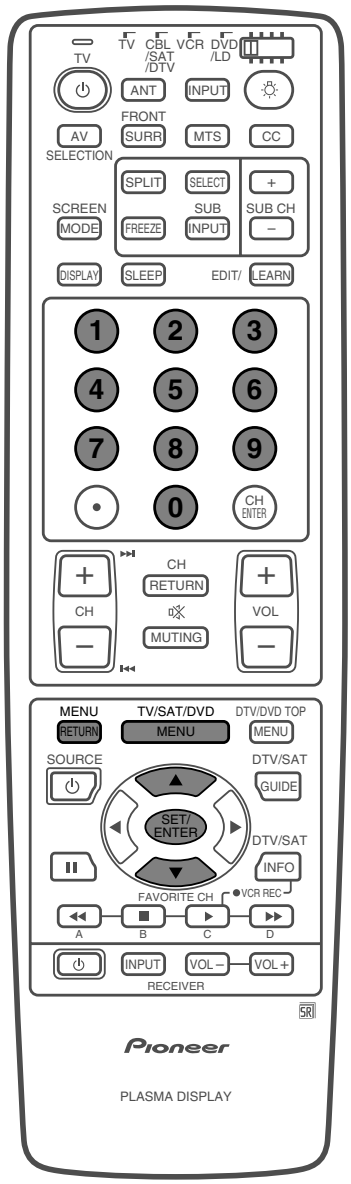
NOTE

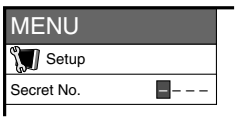
- Voluntary movie rating system only uses an age-based rating.

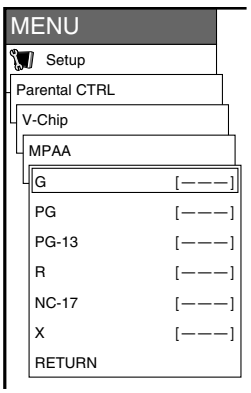
TV Parental Guidelines

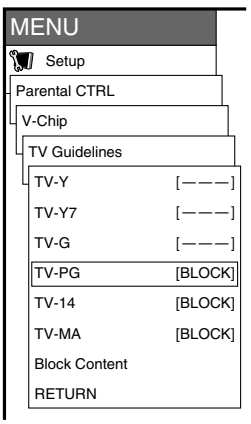
Rating		Content				
		FV (Fantasy violence)	V (Violence)	S (Sexual situation)	L (Adult language)	D (Sexually suggestive dialog)
Suggested age	TV-Y (All children)					
	TV-Y7 (Directed to older children)	X				
	TV-G (General audience)					
	TV-PG (Parental guidance suggested)		X	X	X	X
	TV-14 (Parents strongly cautioned)		X	X	X	X
	TV-MA (Mature audience only)		X	X	X	

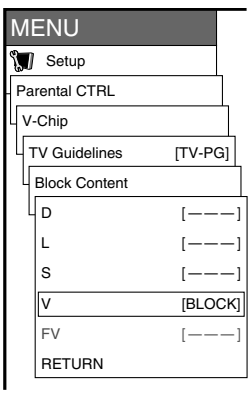
X: Content rating can be set.











Voluntary movie rating system (MPAA)

1 Press **MENU**.

2 Press ▲/▼ to select “Setup”, and then press **SET/ENTER**.
- Secret number setting menu displays only when “Secret No.” is set. (See page 52.)
- V-CHIP and Status will not be selectable from the menu if you do not first configure your secret number. (See page 52.)

3 Enter your 4-digit secret number with **0** – **9** to cancel the “Secret No.” when you set it.

4 Press ▲/▼ to select “Parental CTRL”, and then press **SET/ENTER**.

5 Press ▲/▼ to select “V-Chip”, and then press **SET/ENTER**.

6 Press ▲/▼ to select “MPAA”, and then press **SET/ENTER**.

7 Press ▲/▼ to select the desired item, and then press **SET/ENTER** to select “BLOCK”.
- The setting automatically enters “BLOCK” for any ratings below your selection.
- If Status is not set to “On” the configuration settings will not work. (See page 53.)

8 Press **MENU** to exit the menu.

NOTE
- Return to the previous menu by pressing **MENU RETURN**.

TV Parental Guidelines (TV Guidelines)

1 Press **MENU**.

2 Press ▲/▼ to select “Setup”, and then press **SET/ENTER**.
- Secret number setting menu displays only when “Secret No.” is set. (See page 52.)
- V-CHIP and Status will not be selectable from the menu if you do not first configure your secret number. (See page 52.)

3 Enter your 4-digit secret number with **0** – **9** to cancel the “Secret No.” when you set it.

4 Press ▲/▼ to select “Parental CTRL”, and then press **SET/ENTER**.

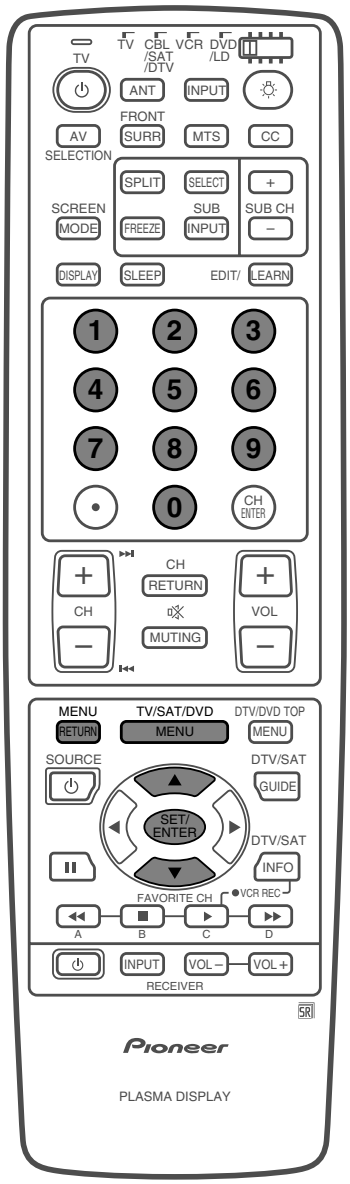
5 Press ▲/▼ to select “V-Chip”, and then press **SET/ENTER**.

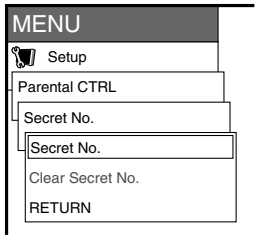
6 Press ▲/▼ to select “TV Guidelines”, and then press **SET/ENTER**.

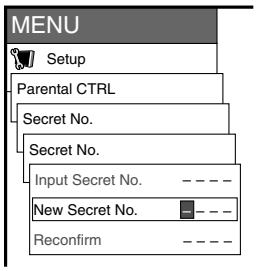
7 Press ▲/▼ to select the desired item, and then press **SET/ENTER** to select “BLOCK”.
- The setting automatically enters “BLOCK” for any ratings below your selection.
- When “Block Content” is selected, its menu displays as shown left.
- If Status is not set to “On” the configuration settings will not work. (See page 53.)

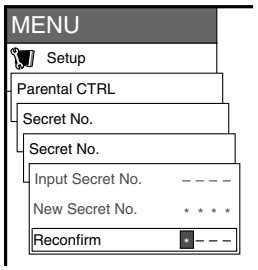
8 Press **MENU** to exit the menu.

NOTE
- Return to the previous menu by pressing **MENU RETURN**.

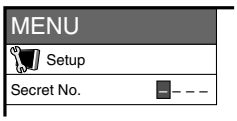


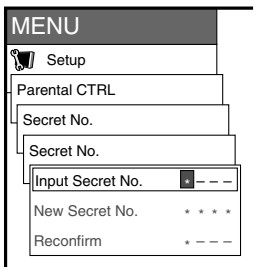


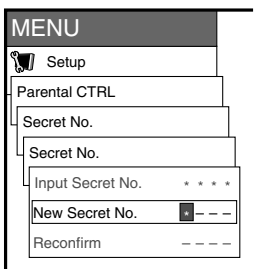


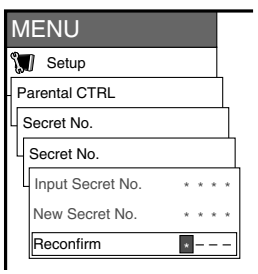


Secret number setting menu









Secret number setting for parental control (AV mode only)

Allows you to use a secret number to protect certain settings from being accidentally changed.

Setting a secret number

1. Press **MENU**.
2. Press ▲/▼ to select “Setup”, and then press **SET/ENTER**.
3. Press ▲/▼ to select “Parental CTRL”, and then press **SET/ENTER**.
4. Press ▲/▼ to select “Secret No.”, and then press **SET/ENTER**.
5. Repeat step 4 again.
6. Enter the 4-digit number as a secret number using **0** – **9**.
7. And enter the same 4-digit number on the “Reconfirm” screen as in step 6 to confirm.
   - “New Secret No. is registered.” displays.
8. Press **MENU** to exit the menu.

NOTE

- Return to the previous menu by pressing **MENU RETURN**.

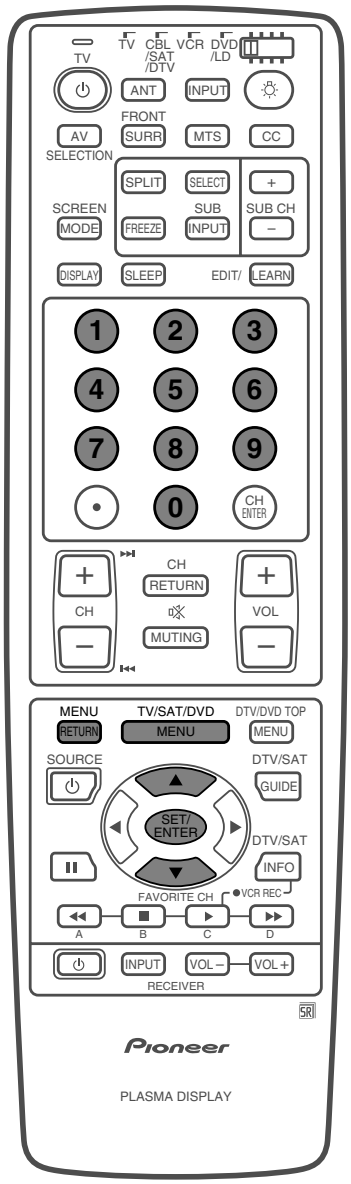
Changing the secret number

Allows you to change your current secret number.

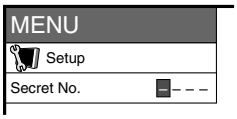
1. Press **MENU**.
2. Press ▲/▼ to select “Setup”, and then press **SET/ENTER**.
   - Secret number setting menu displays.
3. Enter your 4-digit secret number with **0** – **9** to cancel the “Secret No.” when you set it.
4. Press ▲/▼ to select “Parental CTRL”, and then press **SET/ENTER**.
5. Press ▲/▼ to select “Secret No.”, and then press **SET/ENTER**.
6. Repeat step 5 again.
7. Enter the Old 4-digit number you have set using **0** – **9**.
8. Enter the New 4-digit number you have set using **0** – **9**.
9. And enter the same 4-digit number on the “Reconfirm” screen as in step 8 to confirm.
   - “New Secret No. is registered.” displays.
10. Press **MENU** to exit the menu.

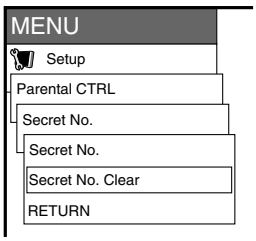
NOTE

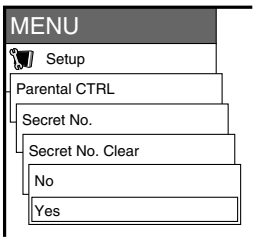
- Return to the previous menu by pressing **MENU RETURN**.

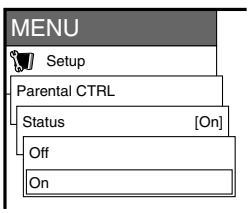


Secret number setting menu









Clearing the secret number

Allows you to clear your secret number.

1 Press **MENU**.

2 Press ▲/▼ to select “Setup”, and then press **SET/ENTER**.
- Secret number setting menu displays.

3 Enter your 4-digit secret number with **0** – **9** to cancel the “Secret No.” when you set it.
- Setup menu displays.

4 Press ▲/▼ to select “Parental CTRL”, and then press **SET/ENTER**.

5 Press ▲/▼ to select “Secret No.”, and then press **SET/ENTER**.

6 Press ▲/▼ to select “Secret No. Clear”, and the press **SET/ENTER**.

7 Press ▲/▼ to select “Yes”, and the press **SET/ENTER**.
- Your secret number is cleared.

8 Press **MENU** to exit the menu.

NOTE

- Return to the previous menu by pressing **MENU RETURN**.
- **As a precautionary measure, make a note of your secret number and keep it in a familiar place. If you lose or forget your secret number, initialize the Plasma Display System to return all settings except for the TV channel settings to factory preset values.**

Setting parental control status

Used to enable or disable the parental control function.

1 Press **MENU**.

2 Press ▲/▼ to select “Setup”, and then press **SET/ENTER**.
- Secret number setting menu displays only when “Secret No.” is set. (See page 52.)
- V-CHIP and Status will not be selectable from the menu if you do not first configure your secret number.

3 Enter your 4-digit secret number with **0** – **9** to cancel the “Secret No.” when you set it.

4 Press ▲/▼ to select “Parental CTRL”, and then press **SET/ENTER**.

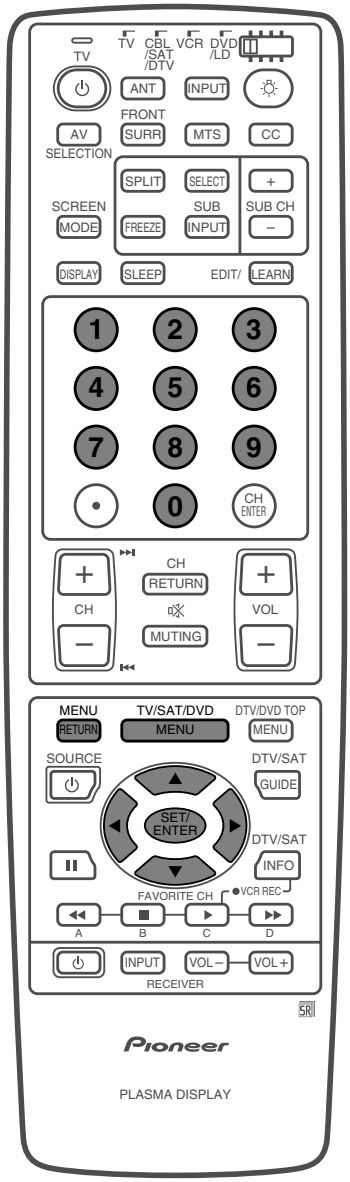
5 Press ▲/▼ to select “Status”, and then press **SET/ENTER**.

6 Press ▲/▼ to select “On” or “Off” , and then press **SET/ENTER**.
- Select “On” to enable and “Off” to disable Parental CTRL.

7 Press **MENU** to exit the menu.

NOTE

- If the secret number is cleared the Status setting automatically sets to “Off”. V-CHIP and Status will not be selectable from the menu.
- Return to the previous menu by pressing **MENU RETURN**.



How to temporarily release the V-CHIP BLOCK

- The V-CHIP BLOCK is working and censors a broadcast, “V-CHIP HAS BEEN ACTIVATED.” displays.

1 Press **SET/ENTER** while the V-CHIP is working and then the secret number. setting menu displays.

2 Enter your 4-digit secret number with **0** – **9** and then press **SET/ENTER**. At this time V-CHIP BLOCK temporarily releases.

Reactivating the temporarily released V-CHIP BLOCK

- You can reactivate the temporarily released V-CHIP BLOCK as shown below.

Method 1:

Select Status setting (“On” or “Off”) from the Parental CTRL menu to reactivate BLOCK.

Method 2:

Select V-CHIP setting (“MPAA”, “TV Guidelines”, “Canadian English Ratings” or “Canadian French Ratings”) from the Parental CTRL to reactivate BLOCK.

Method 3:

Switch off the Media Receiver power.

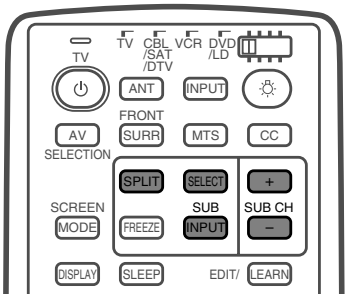
NOTE

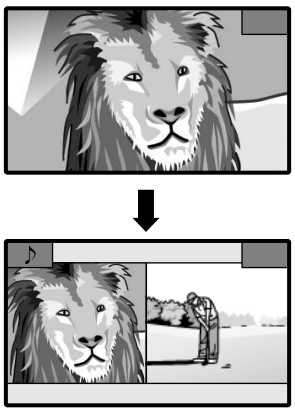
- Performing any of the three above will activate the V-CHIP BLOCK.

Useful features

Multiscreen functions

Allows you to display two pictures on the screen at one time.





Dual screen

You can display two same-sized pictures except when inputting from a PC INPUT terminal.

1 Press **SPLIT**.

- Dual screen displays and a selected input source image displays.

2 Press **SELECT** to set either screen to be active.

- " ♪ " displays on the active screen, which has sound output.

3 Press **SUB CH+/–** to select another channel on the inactive screen.

4 Press **SUB INPUT** to select another input source on the inactive screen.

- A selected image displays.

5 Press **SPLIT** to exit dual screen.

NOTE

- This function does not work under the following input conditions:
  ①PC INPUT mode,
  ②Two pictures from the same source (e.g. INPUT 1 and INPUT 1),
  ③Images from a high frequency signal source.
- When this function is not available, "No dual screen display available" will display.

Picture and still image

You can display two same-sized pictures when inputting from a AV source.

1 Press **FREEZE**.

- A moving image displays on the left screen and a still image displays on the right screen. The still image is one frame captured from a moving image at the moment you press **FREEZE**.

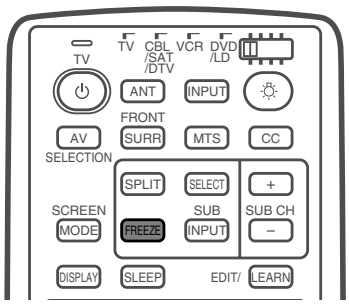
2 Update the still image by pressing **SET/ENTER**.

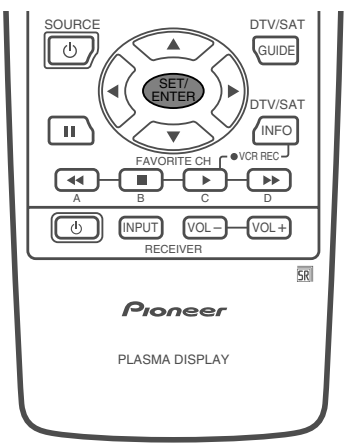
- Each time you press **SET/ENTER**, the image on the right screen updates.

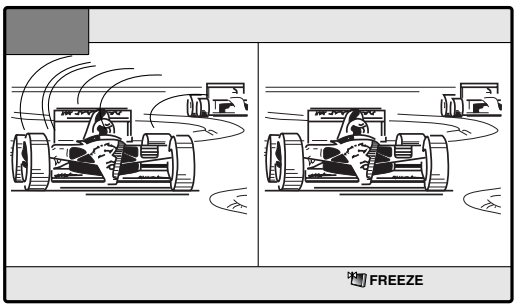
3 Press **FREEZE** to exit still image.

NOTE

- This function does not work under the following input conditions:
  ①PC INPUT mode,
  ②Images from a high frequency signal source.
- When this function is not available, "No still image display available." will display.







Appendix

Troubleshooting

Problem	Possible Solution
• No power.	• Make sure the Plasma Display and the Media Receiver are connected correctly. • Check if you pressed **TV** ⏻ on the remote control unit. If the indicator on the Plasma Display lights up red, press **TV** ⏻. • Is the power cord disconnected? • Has the main power been turned on?
• Unit cannot be operated.	• External influences such as lightning, static electricity, may cause improper operation. In this case, operate the unit after first turning on the power of the Plasma Display and the Media Receiver, or unplugging the power cord and replugging it in after 1 or 2 minutes.
• Remote control unit does not operate.	• Is the Mode switch set correctly? Slide it to the TV setting position. • Are batteries inserted with polarity (+, −) aligned? • Are batteries worn out? (Replace with new batteries.) • Are you using it under strong or fluorescent lighting? • Is a fluorescent light illuminated near the remote control sensor?
• Picture is cut off/with sidebar screen.	• Is the image position correct? • Are screen mode adjustments such as picture size made correctly?
• Strange color, light color, dark or color misalignment.	• Adjust the picture tone. • Is the room too bright? The picture may look dark in a room that is too bright. • Check the input signal setting.
• Power is suddenly turned off.	• Is the sleep timer set? • Check the power control setting. • The unit's internal temperature has increased. Remove any objects blocking vent or clean.
• No picture.	• Is connection to other components correct? • Has setup been done correctly after connection? • Is the correct input selected? • Is a non-compatible signal being input? • Is picture adjustment correct?

Warning	Problem with Plasma Display System	Possible Solution
E01	• System cable connection	• System cables are not properly connected. Check that all system cables are connected properly.
E04	• Abnormal internal temperature	• The internal temperature of the Plasma Display is abnormally high. Check the location the System is installed.
E06	• Abnormal internal signaling or circuit operation of the Plasma Display	• Turn off the power once and turn it on again.

Please check to see if a warning is displayed on the screen. If the problem still cannot be solved please consult the dealer where this unit was purchased.

Computer compatibility chart

Resolution	Frequency	Remarks
640×400	85 Hz	
720×400	70 Hz	
	85 Hz	
640×480	60 Hz	
	65 Hz	Macintosh 13″ (67 Hz)
	72 Hz	
	75 Hz	
	85 Hz	
800×600	56 Hz	
	60 Hz	
	72 Hz	
	75 Hz	
	85 Hz	
832×624	74.5 Hz	Macintosh 16″
1024×768	60 Hz	
	70 Hz	
	75 Hz	Macintosh 19″
	85 Hz	
1280×768	60 Hz	

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Power Management is a registered trademark of Sun Microsystems, Inc.
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HOW TO SET THE FACTORY PRESETTINGS

Press and hold down **CLEAR** on the Media Receiver while it is in standby mode. Then press **STANDBY/ON** on the Plasma Display or **TV** ⏻ on the remote control unit to turn the Plasma Display System on.
All setting items (except TV channel) return to the factory presetting.

NOTE

- Running the factory presetting operation also clears the secret number.

You can run the Auto Installation again by using the following steps.

1 Turn on the power of the Plasma Display and the Media Receiver.
2 Press **MENU**. (Make sure the menu screen displays.)
3 Press ▲/▼ to select “Setup”.
4 Press **SET/ENTER**.

NOTE

- If the secret number setting screen displays, you need to enter your secret number.
- If you forget your secret number, refer to HOW TO SET THE FACTORY PRESETTINGS above.

5 Press ▲/▼ to select “Auto Installation”.
6 Press **SET/ENTER**.

“Auto Installation completed” displays. After that, the screen changes to the TV mode.

The secret number is | | | | | **.**

NOTE

- As a precautionary measure, make a note of your secret number above, scissor it from this manual, and keep it in a familiar place.

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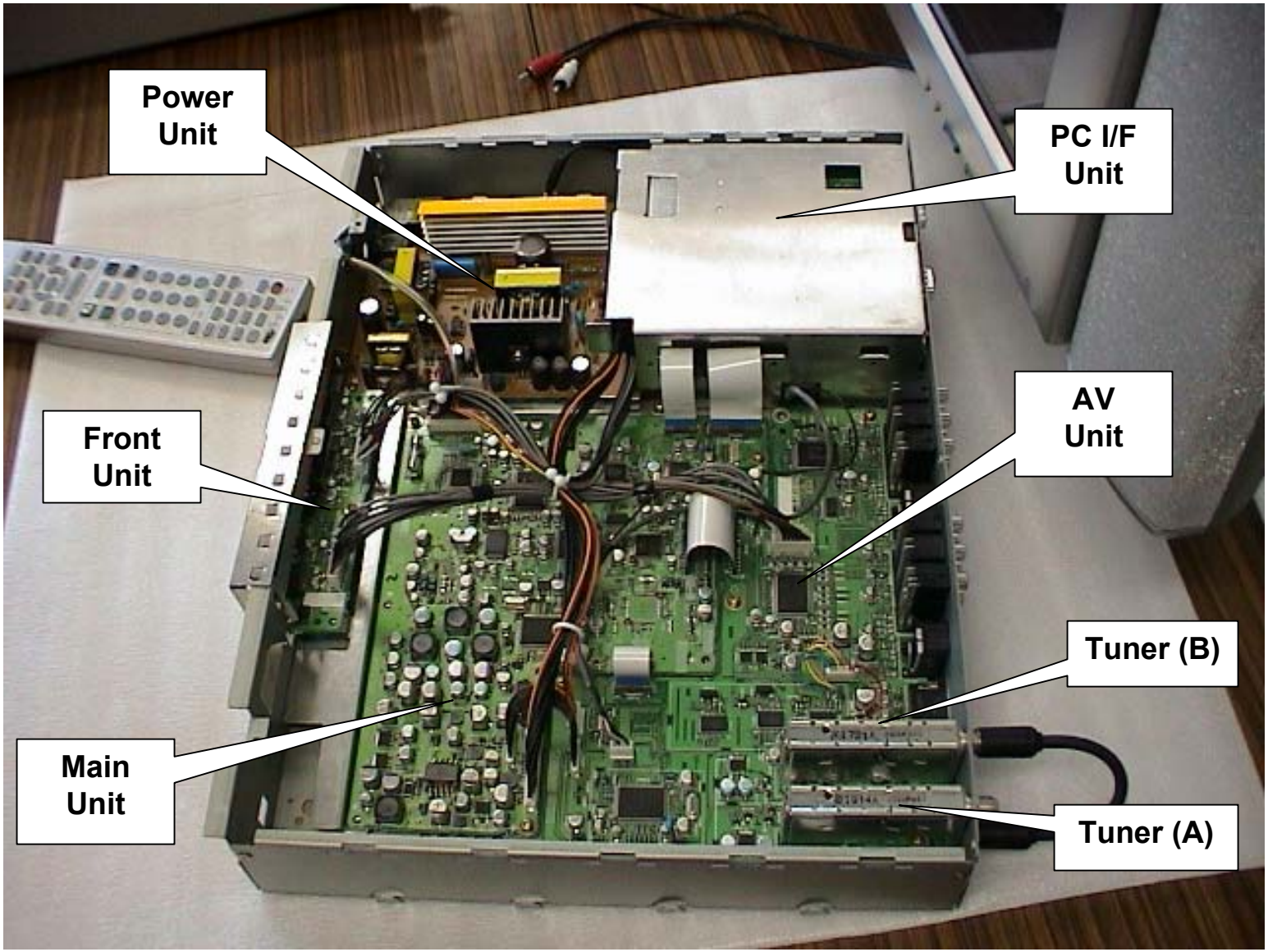
PDP-R03U Overview

The Pioneer PDP-R03U Media Receiver is designed for use with Plasma Display Models PDP503PU or PDP433PU. The units must be connected using the two system cables for proper operation. The Media receiver cannot operate as a stand-alone unit. The Digital Video output from the Media Receivers DVI system cable is in a TMDS format (Transition Minimized Differential Signaling) with HDCP protection (High Bandwidth Digital Content Protection System). The output is digitally scrambled by the HDCP system when sent to the Plasma Display and can only be decoded by the Plasma Displays interface card. Key data matching between the display and receiver must be verified before the signal will be sent or decoded by the Plasma Panel.

PDP-R03U PCB Layout

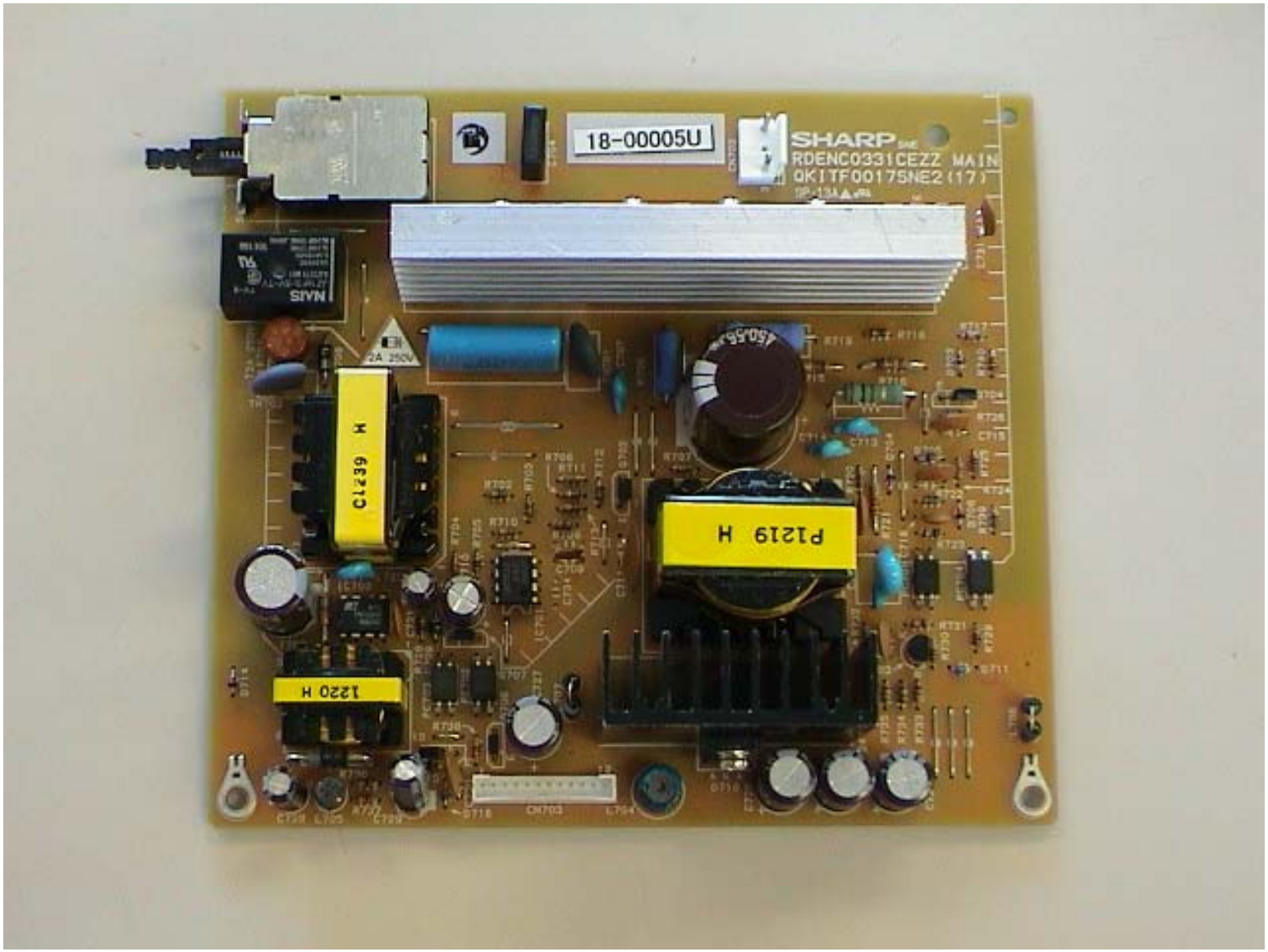


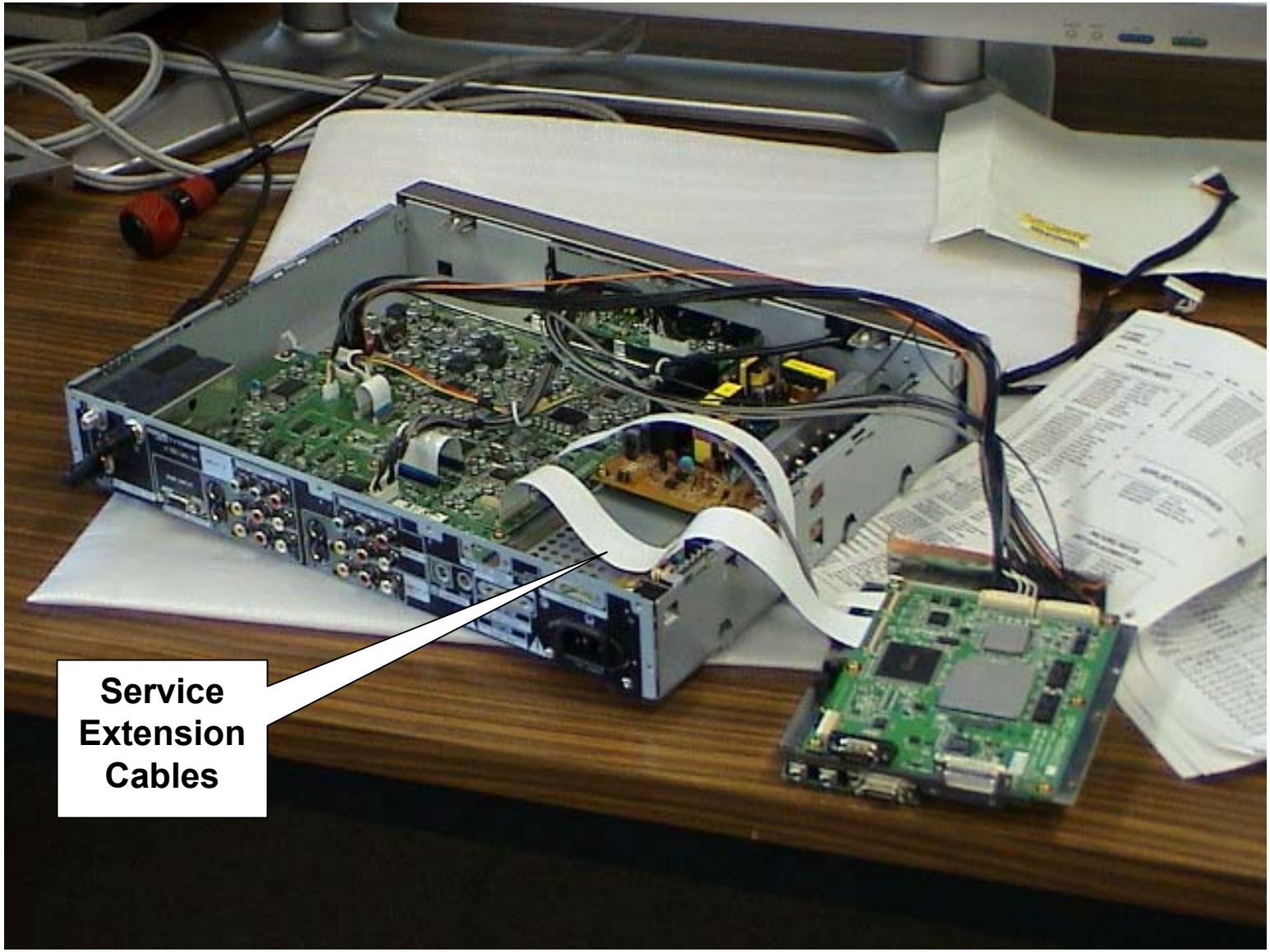
PC/IF Unit

DVI Connector

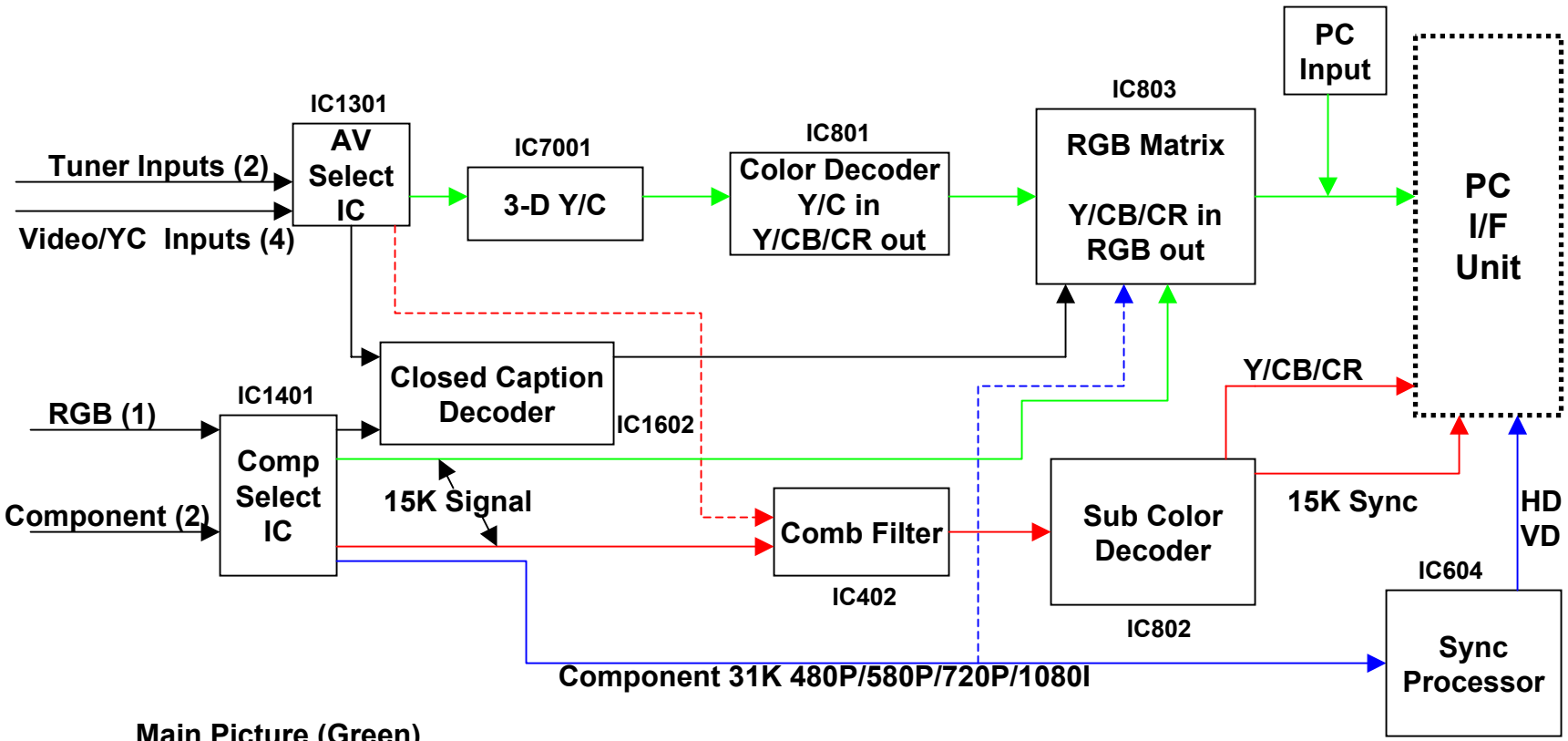
RS-232C For Service Use

Power Supply Unit




Service
Extension
Cables

AV Unit (Basic Video Signal Path)



Main Picture (Green)

Sub-Picture (Red)

Component 31K (Blue)

AV Unit (Basic Video Signal Path)

Overview

The Media Receiver can accept 2 tuner inputs, 4 video or YC inputs, 1 RGB input, 2 component inputs and 1 PC input. IC1301 selects tuner or YC inputs. IC1401 selects RGB or component inputs. The media receiver has a 50/50 split screen feature referred to in this diagram as main picture and sub-picture. Any input signal can be selected for main picture. For sub picture, PC and component signals of 31k cannot be selected.

Main Picture

If tuner 1 input were selected as the main picture it would first pass through IC1301 and be outputted to the High-Precision 3-D Y/C separator IC7001. The converted Y/C output from IC7001 goes to IC801 the Color Decoder and at this point the Y,C and sync signals are processed and converted to Y/CB/CR signals and sent onto IC803 the RGB Matrix IC. IC803 takes the inputted Y/CB/CR and sync signals then performs picture and sync correction as well as converting the signal to RGB and sending the output to the PC I/F unit for additional processing.

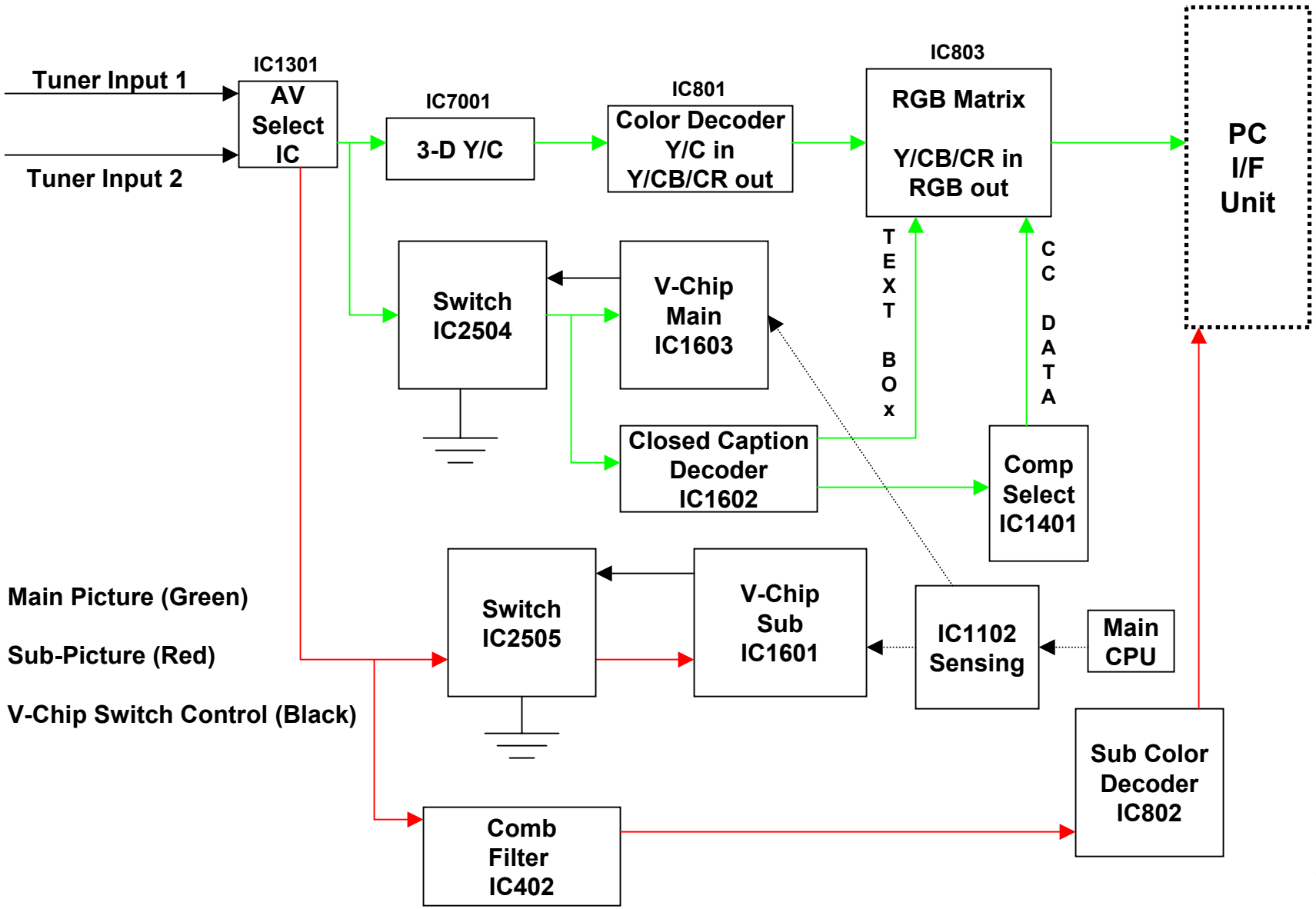
Sub-Picture

If tuner 2 were selected for sub-picture the output from IC1301 would be sent to IC402 (3-line Y/C comb filter) and the YC output signal from IC1402 passes into IC802 the Sub Color Decoder. This IC performs the same operation as IC801 in the main picture section. The Sub Color Decoder processes the Y/C and sync signals sending it's output to the PC I/F board as Y/CB/CR.

RGB & Y/PB/PR

RGB and Component input signals are processed slightly different than Tuner or Y/C inputs. The 2 types of signals use a separate input select IC (IC1401). RGB or Y/CB/CR signals after the selector IC1401 go directly to IC803 the RGB Matrix IC and after processed and converted to RGB (in the case of Y/CB/CR) the signals go to the PC I/F board. Component sync signals at 31k require a separate sync processing circuit (IC604). This IC processes 31k sync signals for 480P,580P,720P and 1080I prior to being sent to the PC I/F board. RGB and component signals can be used as sub-picture as long as the signals are at 15K.

Closed Caption & V-Chip (Basic Signal Path)



Closed Caption & V-Chip (Basic Signal Path)

Overview

The Media Receiver incorporates one Closed Caption Decoder and two V-Chip Program Blocking IC's. The two V-Chip Decoders are for main and sub-picture. The Closed Caption Decoder is used for the main picture only. 31K Component signals do not pass through either of these circuits.

Main Picture

If tuner 1 input were selected as the main picture it would first pass through IC1301 and be outputted to Switch IC2504 and sent to the main picture V-Chip IC1603 and the Closed Caption Decoder IC1602. The Closed Caption Data would output IC1602 by two paths. The Text box information would enter IC803 directly and the text data would pass through IC1401, the RGB and component selector IC prior to entering IC803. If Closed Caption were selected to be viewed the signals would be added in IC803 to the main RGB output signal. The signal going into the V-Chip IC1603 is decoded and checked by IC1102. The Sensing IC1102 checks for v-chip settings by the customer. It receives its information from the main CPU (IC1) and if the v-chip content is not allowed to be viewed the signal will not enter the 3-D YC separator IC7001. The signal will be to grounded by IC2504.

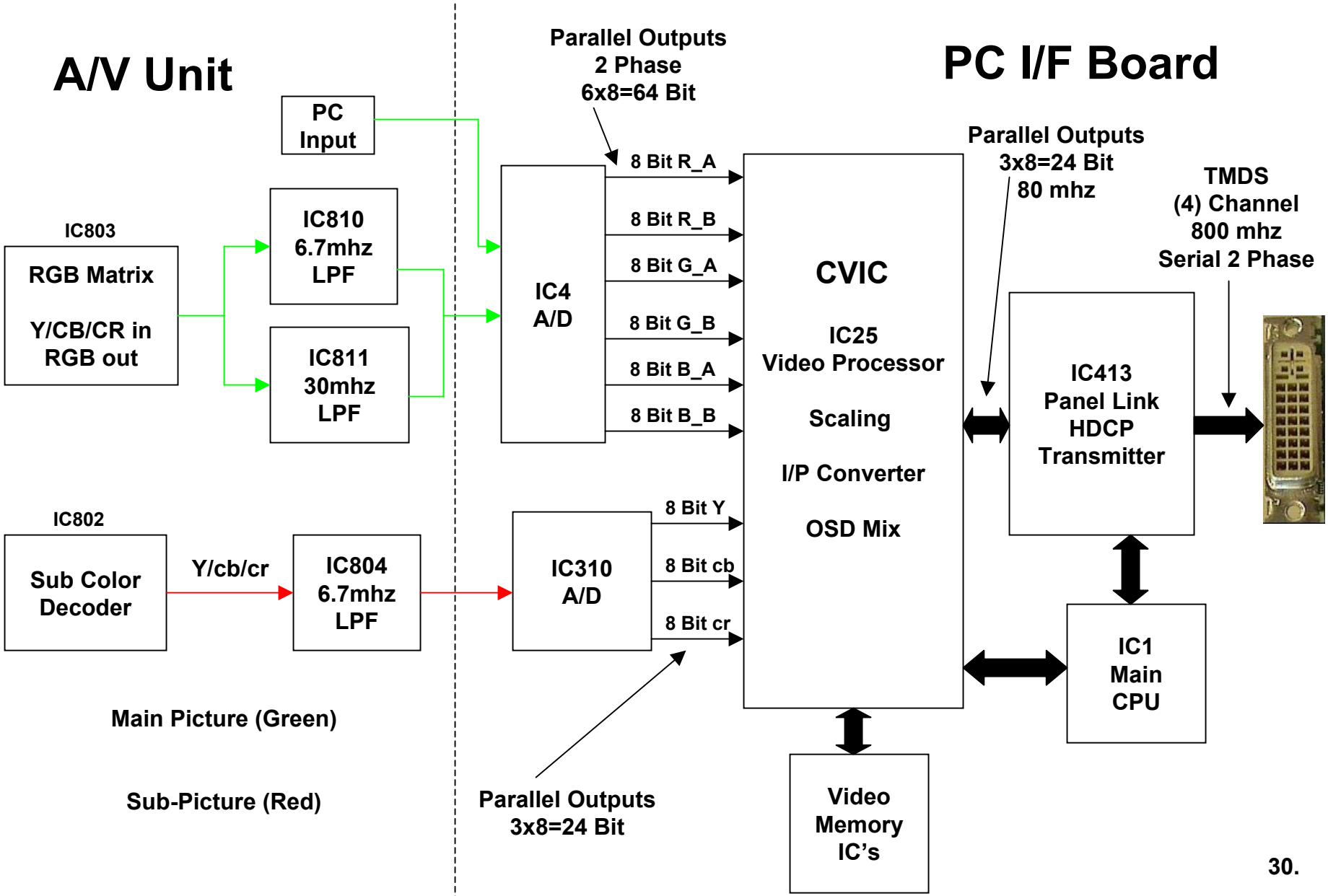
Sub-Picture

If tuner 2 were selected for sub-picture the output from IC1301 would be sent to switch IC2505 and in this case sent to V-Chip (2) IC1601. The same sensing IC (IC1601) is used for Sub-Picture V-Chip control and IC2505 will ground the input to IC402 if the content detected should not be viewed.

Note:

Only one setting for V-Chip Content Protection can be set by the customer. Therefore Main and Sub Pictures share the same setting.

PC I/F (Basic Signal Path)



PC I/F (Basic Signal Path)

Overview

The PC I/F board main functions are to take the main, sub-picture and PC inputs from the A/V unit and analog to digital convert each signal, perform I/P conversion, add on screen display information and output the picture data to the plasma display as a DVI signal with content protection.

Main Picture

From the A/V unit the main picture RGB information from IC803 is sent through one of two filters (IC810 a 6.7mhz low pass filter used for 15k signals or IC811 a 30mhz low pass filter used for 31k signals) after filtering out any noise the RGB and sync signals enter IC4 for analog to digital converting. The digital RGB output from IC4 is parallel 2 phase 8 bits for each signal. R=8x2, G=8x2 and B=8x2 total 6x8=64 bit. The PC input enters IC4 directly and is processed the same.

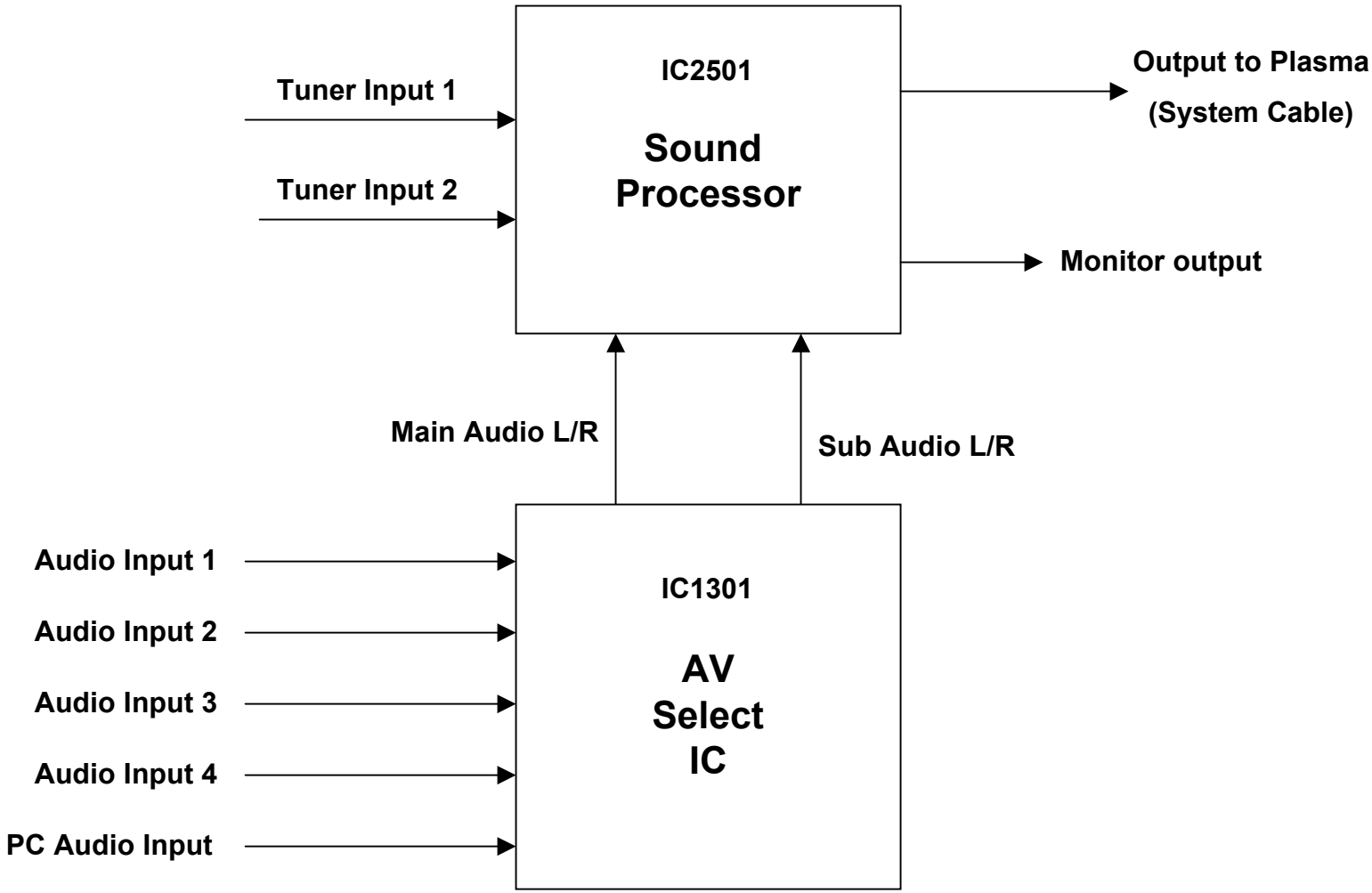
Sub-Picture

The sub-picture Y/cb/cr and sync signals from the A/V unit exit IC802 and are sent through IC804 a 6.7mhz low pass filter and enter IC310 on the PC I/F board. IC310 takes the Y/cb/cr signals and digital to analog converts them outputting to IC25 parallel Y=8, cb=8 and cr=8 total 3x8=24 bits.

Video Processing

IC25 is the main digital video processor and this IC performs the I/P conversion and scaling to match the digitalized video with the output resolution. IC25 detects the video resolution from the input sync. The video processor also adds the onscreen display and processes the split screen modes 50/50 or freeze. IC25 outputs the processed digital RGB to IC413 as a parallel 3x8=24 bits at 80mhz. IC413 is a panel link transmitter. It converts the 8 bit RGB video data output from IC25 into the differential TMDS signal and then digitally transmits the converted signals to the plasma display at 10x the clock frequency (800mhz) 4 channel serial 2 phase with HDCP protection.

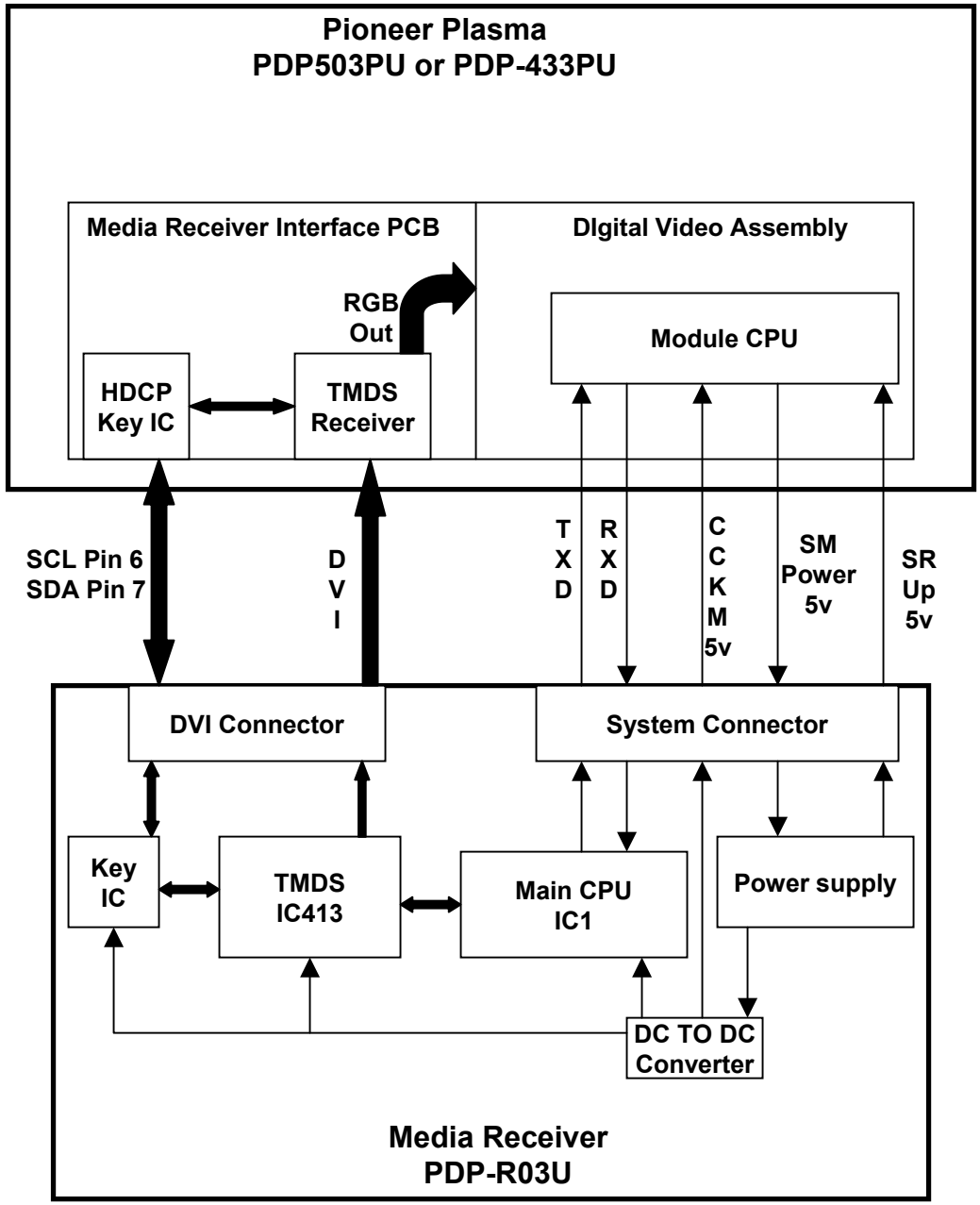
AV Unit (Basic Audio Signal Path)



AV Unit (Basic Audio Signal Path)

All Audio inputs enter IC1301 the AV selector switch except Tuner 1 and 2 audio IF signals. IC2501 has a built in TV audio IF demodulator for the two tuner inputs. The selector IC1301 separates the right and left channel selected outputs for main and sub-audio. The audio signals from IC1301 enter IC2501 the Sound Processor and this IC selects the proper output to be sent out on the system cable to the plasma display and the monitor output jacks. IC2501 and IC1301 both receive switching information from IC1 the Main system microprocessor. Audio output to the plasma display is Analog in this system.

Power On Procedure

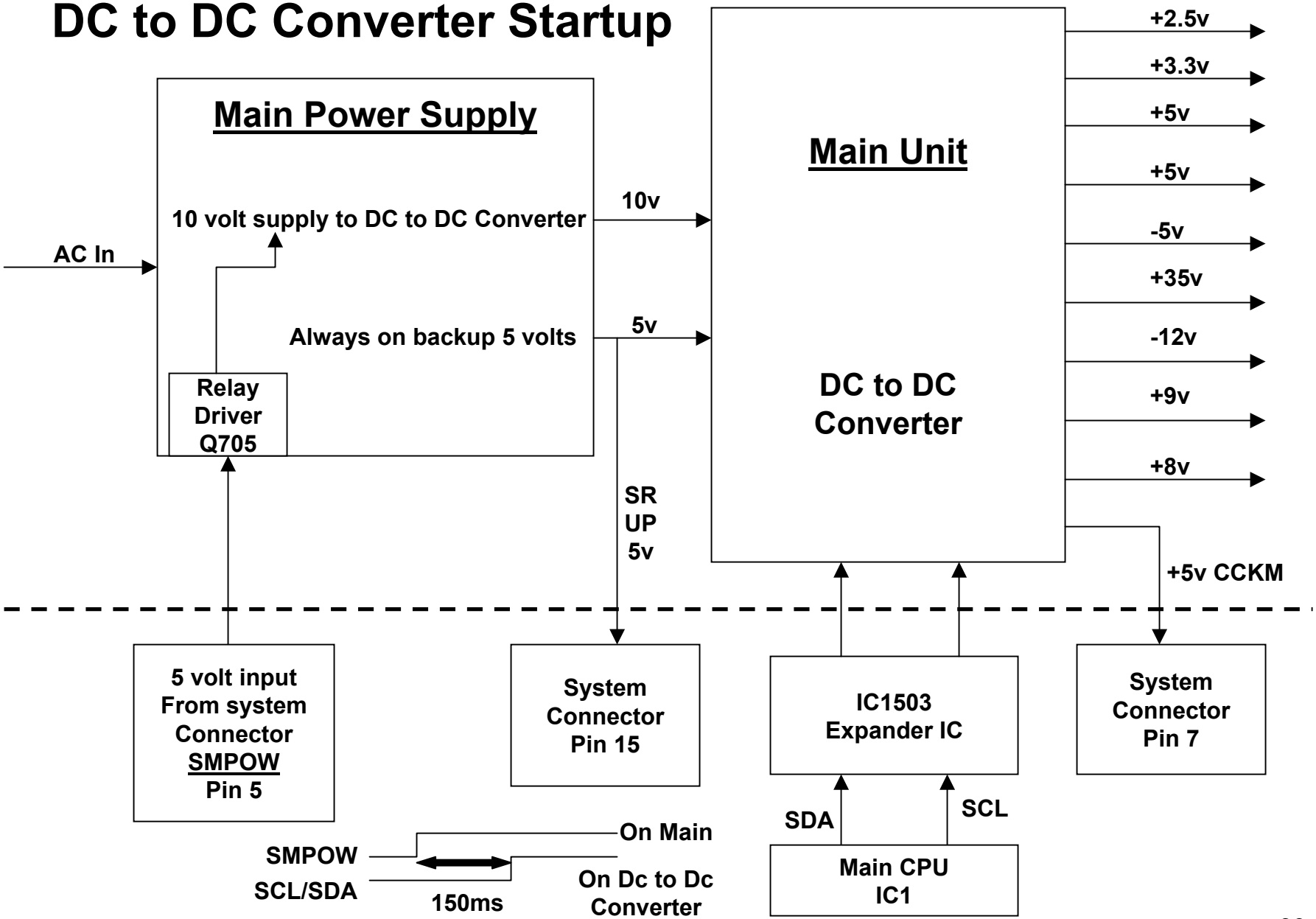


Power On Procedure

With both the media receiver and plasma units plugged in and the main power switch on, pressing the Power on/ Standby switch on the remote or on the plasma display will start the following power up sequence.

When the standby key is pressed the plasma display outputs +5v to the media receiver on the SM Power line. This 5 volt line turns on the main power supply's 10v line. At the same time the display also sends serial data on the RXD line to the media receivers main CPU (IC1). The RXD data tells the media receivers CPU to power up and sends model information (PDP503PU or PDP433PU). The main CPU then sends a conformation signal back to the display on the TXD line. These serial data lines are the communication lines between the display and the receiver. Next the main CPU sends a request to IC413 to perform Key IC data checks between the receiver and the display through the SCL and SDA lines in the DVI cable. If the key ID data matches the information stored in each EPROM, IC413 instructs the main CPU to turn on the DC to DC converter. The DC to DC converter starts up and sends +5v back to the display on the CCKM line. A additional +5v always on line SR UP is sent to the display from the media receivers power supply. If anything in the startup procedure fails the media receiver will not power on. Key IC data after power on is rechecked every 128 frames and if missing or the wrong Key data is received the DVI output signal will stop and the main CPU will turn off the DC to DC converter.

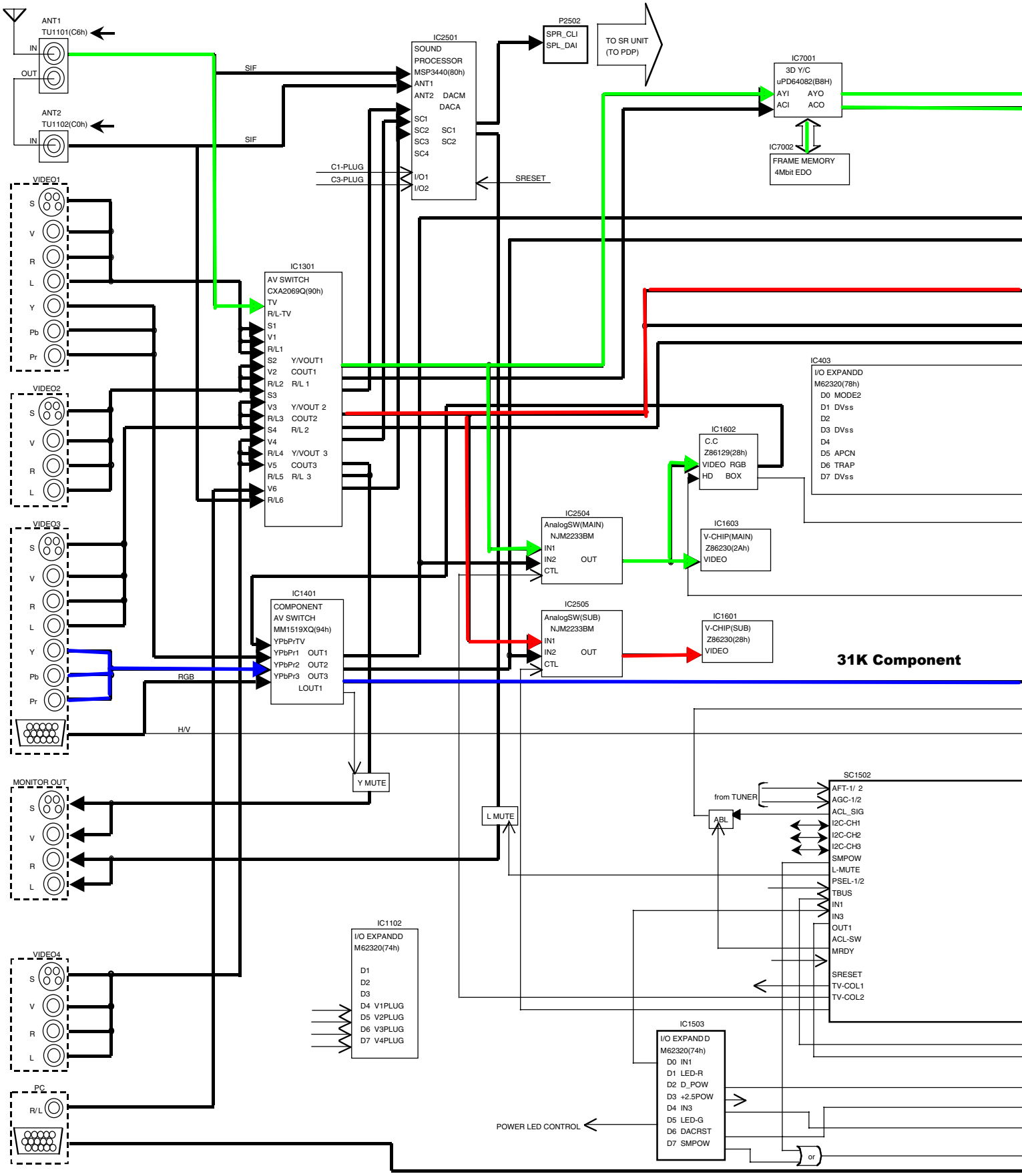
DC to DC Converter Startup



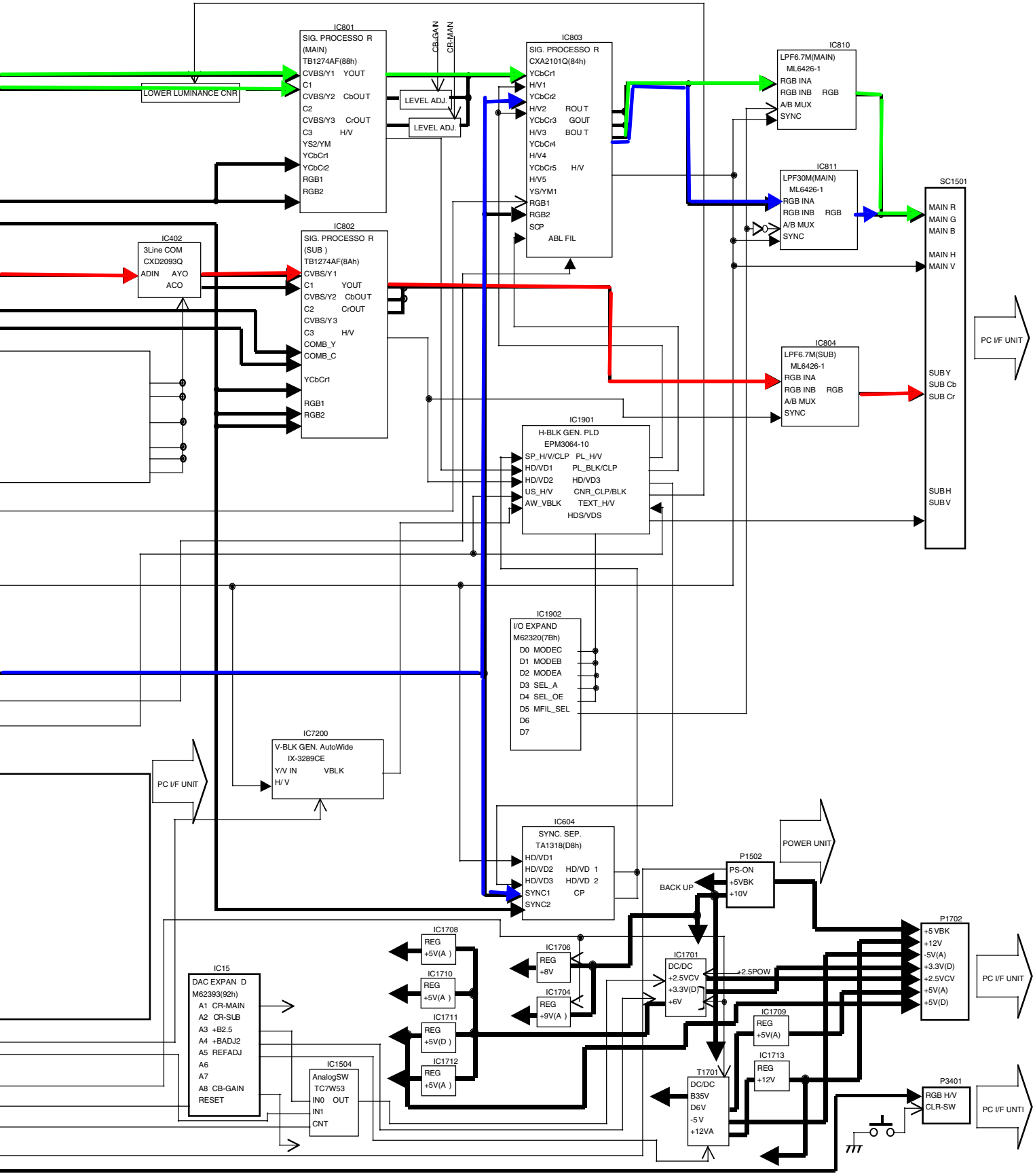
DC to DC Converter Startup

With the media receivers main power switch turned on, the power supply only outputs the backup +5v line to the main CPU and the SR UP input line to the display panel. When the standby key is pressed on the remote or plasma panel +5 volts is sent from the display on the SMPOW line to the relay driver Q705 in the main power supply. The relay driver Q705 turns on the main +10 volt line supply to the DC to DC converter. At this time the main CPU is also checking the HDCP Key data on the SDA and SCL lines. If the Key data received is correct, the main CPU sends two signals to the expander IC1503 (150ms after the SMPOW signal started the +10 volt supply). The expander IC then sends two signals to the DC to DC converter IC1701 and all DC to DC converter circuits start up. When the converter outputs come up the +5 volt CCKM signal is sent back to the plasma display. The outputs from expander IC1503 are the two voltage offset information lines needed in order for IC1701 to function. As stated in the power on procedure, every 128 frames the Key data is checked by the Main CPU (IC1) and will shut down the DC to DC converter if incorrect.

A/V SYSTEM BLOCK DIAGRAM

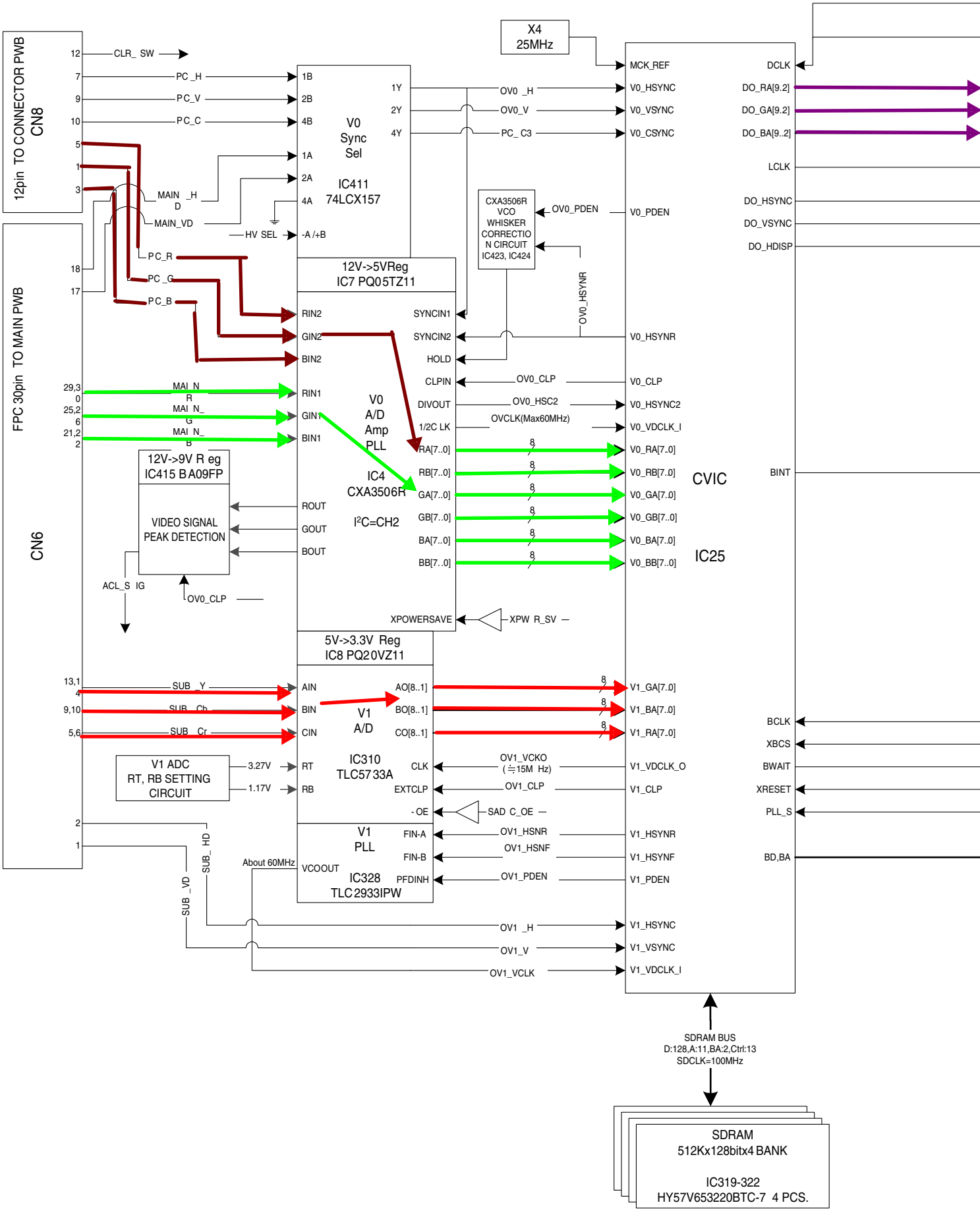


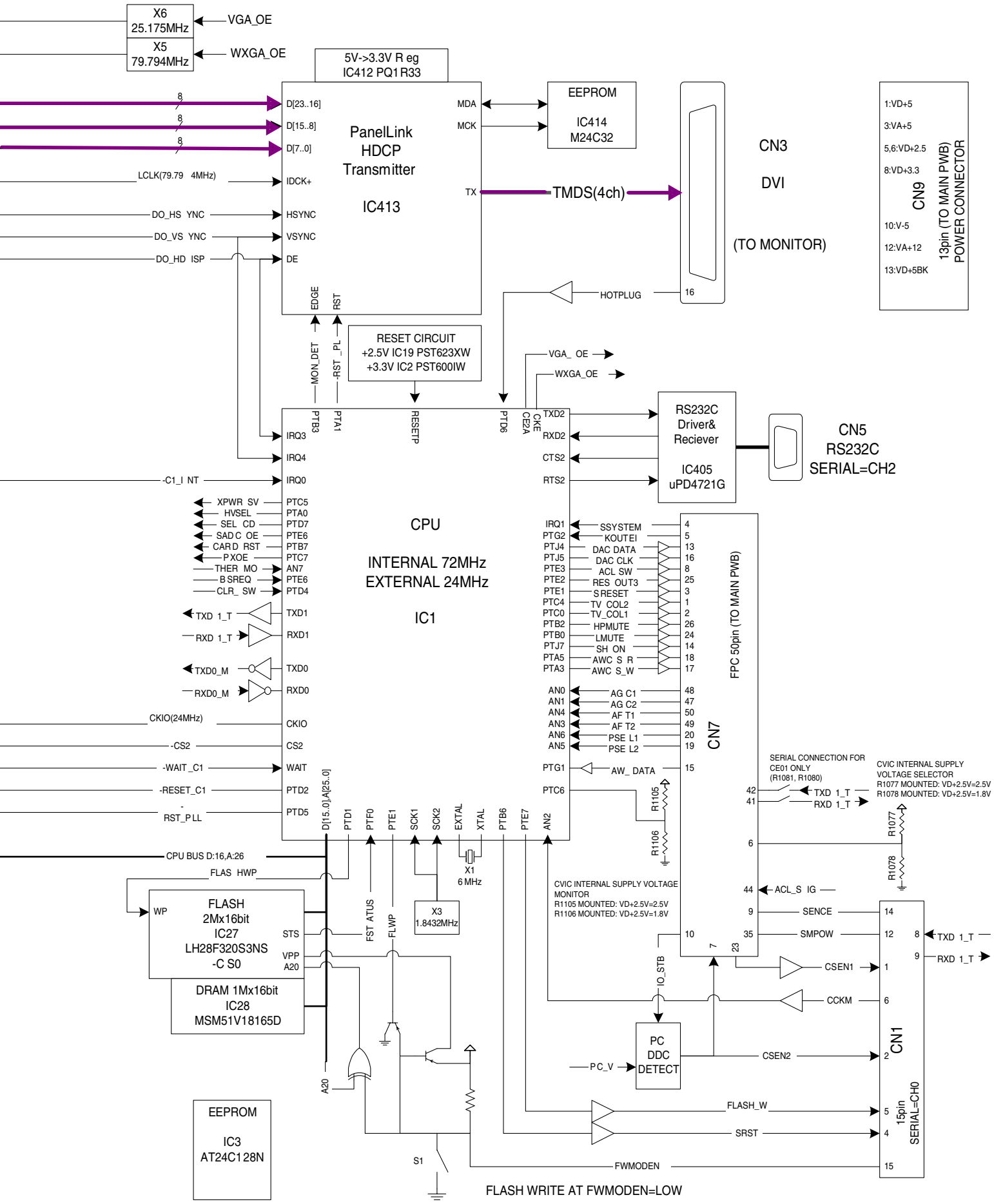
Main Picture (green), Sub Picture (red), Component 31K (blue)


IC801
SIG. PROCESSO R
(MAIN)
TB1274AF(88h)
CVBS/Y1 YOUT
C1
CVBS/Y2 CbOUT
C2
CVBS/Y3 CrOUT
C3 H/V
YS2/YM
YCbCr1
YCbCr2
RGB1
RGB2
LOWER LUMINANCE CNR
CB-GAIN
CR-MAN
LEVEL ADJ.
LEVEL ADJ.
IC803
SIG. PROCESSO R
CXA2101Q(84h)
YCbCr1
H/V1
YCbCr2
H/V2 ROUT
YCbCr3 GOUT
H/V3 BOUT
YCbCr4
H/V4
YCbCr5 H/V
H/V5
YS/YM1
RGB1
RGB2
SCP
ABL FIL
IC810
LPF6.7M(MAIN)
ML6426-1
RGB INA
RGB INB RGB
A/B MUX
SYNC
IC811
LPF30M(MAIN)
ML6426-1
RGB INA
RGB INB RGB
A/B MUX
SYNC
SC1501
MAIN R
MAIN G
MAIN B
MAIN H
MAIN V
SUB Y
SUB Cb
SUB Cr
SUB H
SUB V
PC I/F UNIT
IC402
3Line COM
CXD2093Q
ADIN AYO
ACO
IC802
SIG. PROCESSO R
(SUB)
TB1274AF(8Ah)
CVBS/Y1
C1 YOUT
CVBS/Y2 CbOUT
C2 CrOUT
CVBS/Y3
C3 H/V
COMB_Y
COMB_C
YCbCr1
RGB1
RGB2
IC804
LPF6.7M(SUB)
ML6426-1
RGB INA
RGB INB RGB
A/B MUX
SYNC
IC1901
H-BLK GEN. PLD
EPM3064-10
SP_H/V/CLP PL_H/V
HD/VD1 PL_BLK/CLP
HD/VD2 HD/VD3
US_H/V CNR_CLP/BLK
AW_VBLK TEXT_H/V
HDS/VDS
IC1902
I/O EXPAND
M62320(7Bh)
D0 MODEC
D1 MODEB
D2 MODEA
D3 SEL_A
D4 SEL_OE
D5 MFIL_SEL
D6
D7
IC7200
V-BLK GEN. AutoWide
IX-3289CE
Y/V IN VBLK
H/ V
PC I/F UNIT
IC604
SYNC. SEP.
TA1318(D8h)
HD/VD1
HD/VD2 HD/VD 1
HD/VD3 HD/VD 2
SYNC1 CP
SYNC2
POWER UNIT
P1502
PS-ON
+5VBK
+10V
BACK UP
P1702
+5 VBK
+12V
-5V(A)
+3.3V(D)
+2.5VCV
+5V(A)
+5V(D)
PC I/F UNIT
IC1708
REG
+5V(A)
IC1710
REG
+5V(A)
IC1711
REG
+5V(D)
IC1712
REG
+5V(A)
IC1706
REG
+8V
IC1704
REG
+9V(A)
IC1701
DC/DC
+2.5VCV
+3.3V(D)
+6V
+2.5POW
IC1709
REG
+5V(A)
IC1713
REG
+12V
T1701
DC/DC
B35V
D6V
-5 V
+12VA
IC15
DAC EXPAN D
M62393(92h)
A1 CR-MAIN
A2 CR-SUB
A3 +B2.5
A4 +BADJ2
A5 REFADJ
A6
A7
A8 CB-GAIN
RESET
IC1504
AnalogSW
TC7W53
IN0 OUT
IN1
CNT
P3401
RGB H/V
CLR-SW
PC I/F UNTI

PC/IF BLOCK DIAGRAM

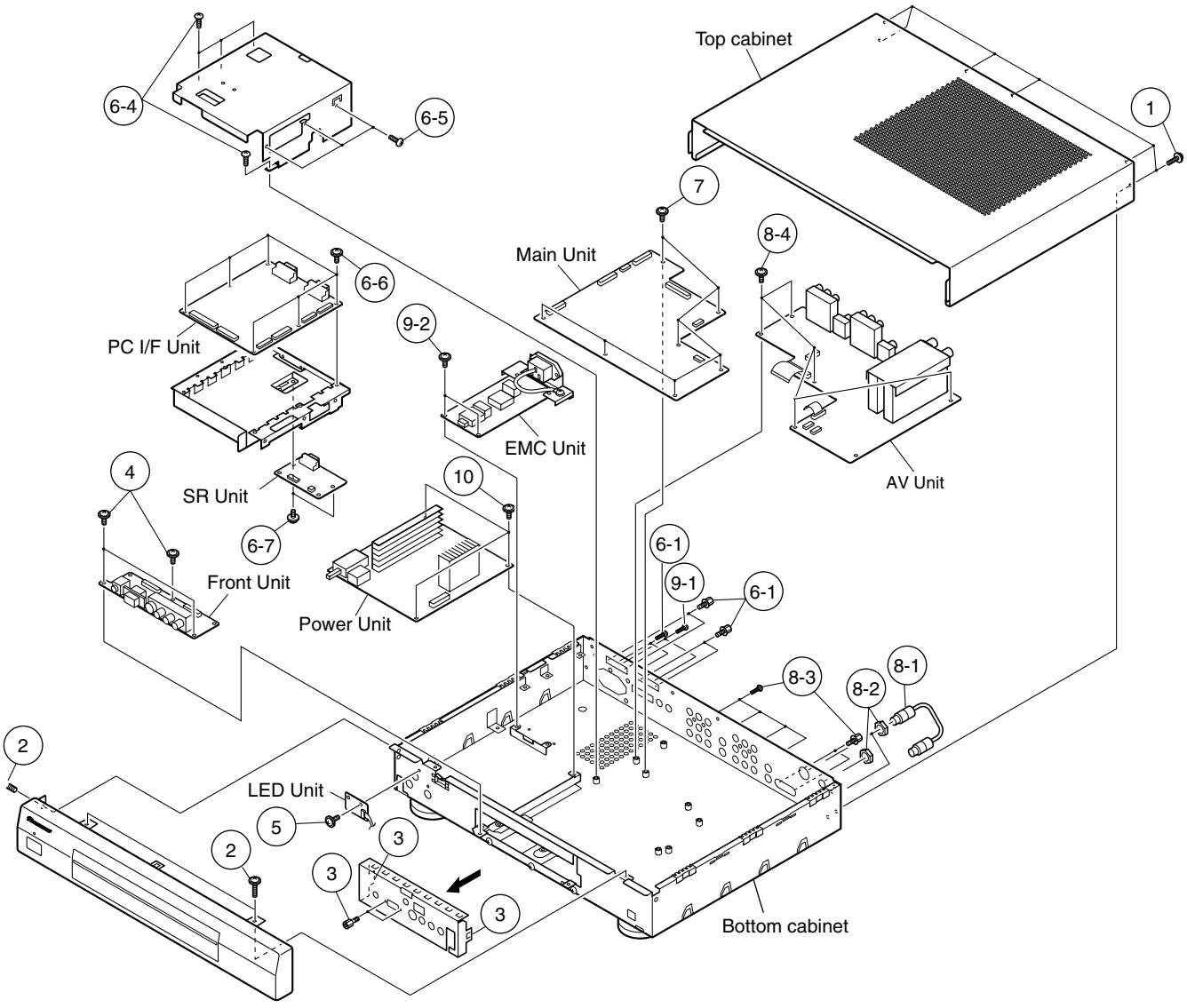
Main Picture (green), Sub Picture (red), PC input (brown), Processed output (purple)




X6
25.175MHz
VGA_OE
X5
79.794MHz
WXGA_OE
5V->3.3V R eg
IC412 PQ1R33
PanelLink
HDCP
Transmitter
IC413
D[23..16]
D[15..8]
D[7..0]
LCLK(79.79 4MHz)
DO_HS YNC
DO_VS YNC
DO_HD ISP
MDA
MCK
TX
TMDS(4ch)
EEPROM
IC414
M24C32
CN3
DVI
(TO MONITOR)
HOTPLUG
CN9
13pin (TO MAIN PWB)
POWER CONNECTOR
1:VD+5
3:VA+5
5,6:VD+2.5
8:VD+3.3
10:V-5
12:VA+12
13:VD+5BK
EDGE
RST
MON_DET
-RST _PL
RESET CIRCUIT
+2.5V IC19 PST623XW
+3.3V IC2 PST600IW
VGA_ OE
WXGA_OE
RS232C
Driver&
Reciever
IC405
uPD4721G
CN5
RS232C
SERIAL=CH2
-C1_I NT
CPU
INTERNAL 72MHz
EXTERNAL 24MHz
IC1
XPWR SV
HVSEL
SEL CD
SADC OE
CARD RST
PXOE
THER MO
BSREQ
CLR_ SW
TXD 1_T
RXD 1_T
TXD0_M
RXD0_M
CKIO(24MHz)
-CS2
-WAIT _C1
-RESET_C1
-
RST_PLL
SSYSTEM
KOUTEI
DAC DATA
DAC CLK
ACL SW
RES OUT3
SRESET
TV COL2
TV_COL1
HPMUTE
LMUTE
SH ON
AWC S R
AWC S_W
AG C1
AG C2
AF T1
AF T2
PSE L1
PSE L2
AW_ DATA
FPC 50pin (TO MAIN PWB)
CN7
SERIAL CONNECTION FOR
CE01 ONLY
(R1081, R1080)
CVIC INTERNAL SUPPLY
VOLTAGE SELECTOR
R1077 MOUNTED: VD+2.5V=2.5V
R1078 MOUNTED: VD+2.5V=1.8V
R1105
R1106
R1077
R1078
CVIC INTERNAL SUPPLY VOLTAGE
MONITOR
R1105 MOUNTED: VD+2.5V=2.5V
R1106 MOUNTED: VD+2.5V=1.8V
ACL_S IG
SENCE
SMPOW
CSEN1
CCKM
CSEN2
IO_STB
PC
DDC
DETECT
PC_V
CN1
15pin
SERIAL=CH0
FLASH_W
SRST
FWMODEN
CPU BUS D:16,A:26
FLAS HWP
FLASH
2Mx16bit
IC27
LH28F320S3NS
-C S0
DRAM 1Mx16bit
IC28
MSM51V18165D
X1
6 MHz
X3
1.8432MHz
FST ATUS
FLWP
A20
S1
EEPROM
IC3
AT24C128N
FLASH WRITE AT FWMODEN=LOW

DISASSEMBLY

1. Remove the six lock screws from the back of the top cabinet. Slide the top cabinet backward and detach it.
2. Remove the three lock screws from the front panel. Undo the three hooks at the top and the four hooks at the bottom, and detach the front panel.
3. Remove the two hexagonal shafts from the front shield. Undo the four hooks on both sides and detach the front shield.
4. Remove the three lock screws from the front unit and detach this unit.
5. Remove the one lock screw from the LED unit and detach this unit.
6. Remove the PC I/F unit and SR unit assemblies.
   - 6-1. Remove the two hexagonal shafts each from the system cable (white) terminal and the RS-232C terminal, both on the PC I/F unit.
   - 6-2. Remove two lock screws from the system cable (gray) terminal also on the SR unit.
   - 6-3. Remove the two lock screws from the PC I/F unit bracket.
   - 6-4. Remove the four lock screws from the PC I/F unit and SR unit assemblies. Take out these assemblies.
   - 6-5. Remove the three lock screws from the brackets of the PC I/F unit and SR unit assemblies. Detach the shield.
   - 6-6. Remove the six lock screws from the PC I/F unit. Detach this unit from the bracket.
   - 6-7. Remove the two lock screws from the SR unit. Detach this unit from the bracket.
7. Remove the seven lock screws from the main unit and detach this unit.



8. Remove the AV unit.
   8-1. Remove the coaxial cable from the antenna terminal.
   8-2. Remove the three lock screws from the antenna terminals
   8-3. Remove the six lock screws from the AV unit.
   8-4. Remove the six lock screws from the AV unit and detach this unit.
9. Remove the EMC unit assemblies.
   9-1. Remove the two lock screws from the EMC unit bracket.
   9-2. Remove the two lock screws from the EMC unit and detach this unit.
10. Remove the three lock screws from the power unit and detach this unit.

ADJUSTMENT

Procedure for turning ON the power

1. Connecting the system

(1) Using the system cable, interconnect the plasma display and the AVC system.
(2) Connect the plasma display to the AC power source.
(3) Connect the AVC System to the AC power source.

2. Procedure for turning ON the power

(1) Turn ON the AC power switch located on the plasma display.
The power indicator on the plasma display will start blinking in red.
(When the AC power switch on the AVC System is not ON, the power indicator on the plasma display always blinks in red.)
(2) Turn ON the power switch located on the AVC System.
The power indicator on the AVC System will be illuminated in green. Simultaneously, the power indicator on the plasma display will change from blinking in red to illumination in green. Now the system has started up.
(3) If the power indicators on the AVC System and on the plasma display are both illuminated in red, press the power key located on the remote controller and the power button located on the plasma display. The power indicators on the plasma display and on the AVC System will change from red to green. Now the system has started up.

Procedure for upgrading the AVC System software

(1) With the power being OFF, open the top cabinet of the AVC System and then set the slide switch from the NORMAL position to the WRITE position by inserting an insulated stick into the cutout located between the WHITE port on the rear of the shield case for the PC I/F unit and the RS-232C port. (Or the software may be upgraded by calling the process adjustment mode and using CENTER PROG UPDATE on the process adjustment menu screen. This is discussed later.)
(2) Connect a program-installed PC to the AVC system using the RS-232C cross cable. (For the details of the program, see Appendix.)
(3) Open the MS-DOS window on the PC and then go to the directory in which the software is installed.
(4) Start up the system to which the AVC System and plasma display have been connected.
(5) Run “vup.bat (tentative name)” at the MS-DOS prompt. The software will be upgraded.
(6) Load the file “civic_XXXXa.bhx main.bhx osd.bhx (tentative name)”.
It will take a couple of minutes until the file has been loaded. Never turn OFF the power or operate the system during this rewriting period.
(7) After the file has been loaded, turn OFF the plasma display and the AVC System, and then return the slide switch in the above step (1) back from the WRITE position to the NORMAL position. Now the software has been upgraded.

Procedure for adjusting each part of the AVC System

1. The adjustments were made to the best settings at factory. If any setting deviates or if any readjustment is regarded as necessary when any part has been replaced, perform the following steps.
2. Any parameter that has been changed in the process adjustment mode is stored on the memory. If any readjustment is required, write down the current value before changing it.
3. Use a stable AC power source.
4. If the program is upgraded, it will take approximately 1 minute for the EEPROM to be initialized before any video appears. Therefore, you will need to wait for this time period. Do not turn OFF the power or operate the system during the period.
5. If the program is rewritten, preferably write down the parameters that have been changed within the process adjustment (see “OSD menu and parameters displayed at manual adjustment”), initialize the EEPROM, and then reenter the recorded values.

Entering Factory Adjust Mode

1. Entering the process adjustment mode

With the system being ON, turn OFF the main power of the plasma display. Next holding down the INPUT SELECT and VOL UP buttons on the plasma display itself, turn ON the main power again. Now the adjustment mode screen shows up.

2. Adjustments in the adjustment process mode

[Steps]
Make adjustments using the process adjustment mode buttons, listed below.
[Description]
Following the items displayed on the process adjustment menu screen, adjust the settings given in their adjustment tables.

3. Procedure for making factory settings

[Steps]
In the process adjustment mode, move the cursor to the line "INDUSTRY INIT" onscreen. Turn ON with the VOL key and press the SET/ENTER key.
(Within the adjustment process, the channel settings remain unchanged. Once you exit the process adjustment mode, the channel settings entered in the delivery adjustment mode become valid.)
[Description]
The user's adjustment parameters and others will be set to the default values. Keep in mind that the channel settings will also be initialized.

Exiting the process adjustment mode

To exit the process adjustment mode, turn off the AVC System power.

OSD menu and parameters displayed at manual adjustment

- The default values may slightly differ depending upon the program version to be rewritten.
- The settings are not initialized to the default values by merely rewriting the program. (See the paragraph for Procedure for adjusting each part of the AVC System.)

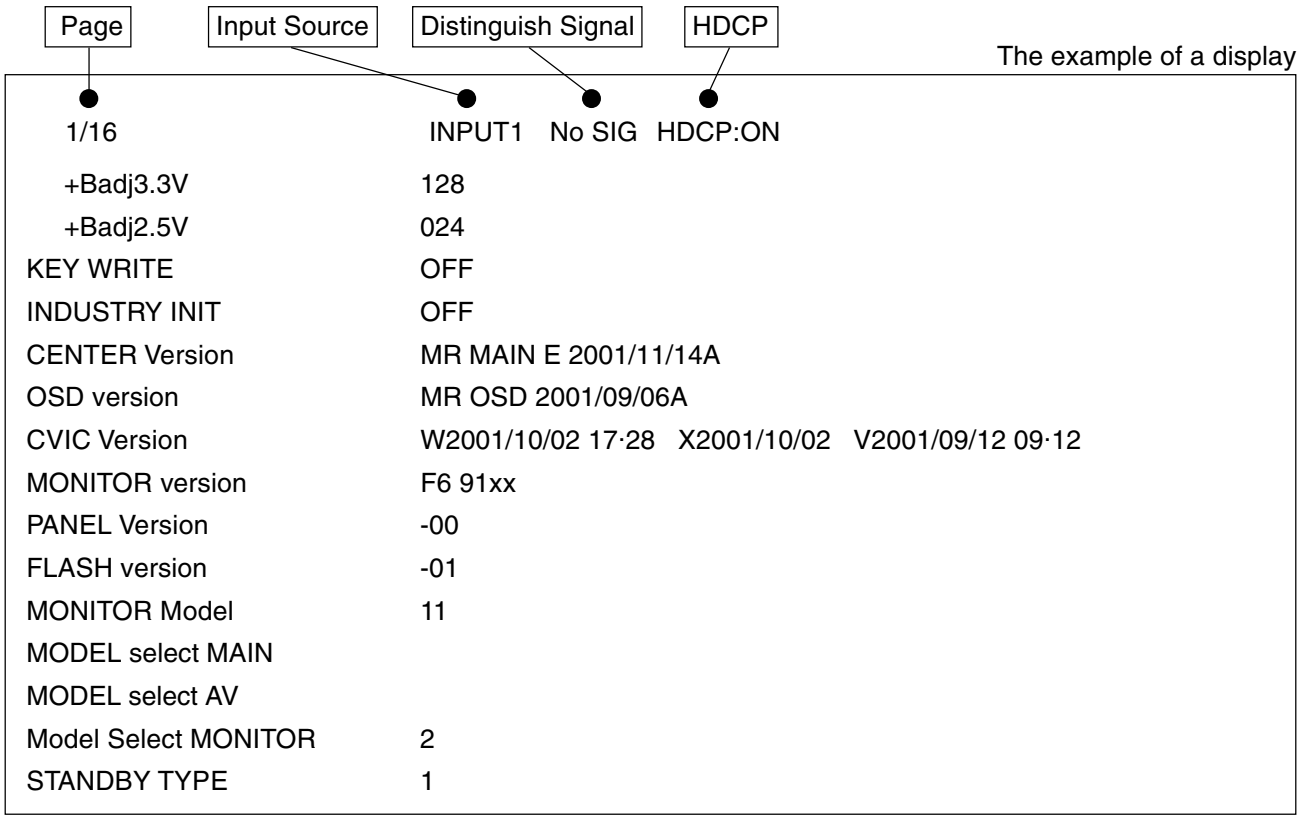
(1) Descriptions of special buttons in process adjustment mode
(All on the remote controller)
Cursor UP key : Returns to the previous page.
Cursor DOWN key : Proceeds to the next page.
Vol UP key : Increases the adjusted value by 1.
Vol DOWN key : Decreases the adjusted value by 1.
Cursor RIGHT key : Increases the adjusted value by 10.
Cursor LEFT key : Decreases the adjusted value by 10.
CH UP key : Moves up the cursor.
CH DOWN key : Moves down the cursor.

(2) Process adjustment menu table
The items displayed on the menu screen must be written down before replacing the EEPROM at the AVC System side.

Procedure for replacing the PC I/F unit

Before replacing the PC I/F unit, write down the items displayed on each menu screen of the adjustment process. If the I/F unit is completely broken and the above items cannot be jotted down in advance, follow the instructions in "Adjustment procedures and items" and make all adjustments.

(2) Organization of process adjustment screen



Parameter display	Setting range	Description
+B Adj3.3V	0 ~ 255	3.3 V adjustment
+B Adj2.5V	0 ~ 255	2.2 V adjustment
SUB N358 Y	0 ~ 63	Sub N358 Y level adiustment
SUB N358 COLOR GAIN	0 ~ 63	Sub N358 color gain adjustment
SUB N358 TINT	0 ~ 63	Sub N358 tint adjustment
N358 Y CONTRAST	0 ~ 63	Main N358 Y contrast adjustment
N358 COLOR GAIN	0 ~ 63	Main N358 color gain adjustment
MAIN CR GAIN N358	0 ~ 255	Main N358 Cr level adjustment
N358 TINT	0 ~ 63	Main N358 Tint adjustment
MAIN CONTRAST 15K	0 ~ 63	Main Contrast adjustment (15k)
MAIN SUB BRIGHT 15K	0 ~ 15	Main sub bright adjustment (15k)
COMP 15K Y CONTRAST	0 ~ 63	COMP 15k Y level adjustment
COMP 15K COLOR GAIN	0 ~ 63	COMP 15k Color gain adjustment
MAIN CR GAIN COMP 15K	0 ~ 255	COMP 15k Cr level adjustment
COMP HDTV CONTRAST	0 ~ 63	COMP HDTV contrast level adjustment
COMP HDTV SUB BRIGHT	0 ~ 63	COMP HDTV black level adjustment
PEAK ACL SW	OFF/ON	

The values for the above parameters should be written down before the EEPROM is replaced on the AVC System.

Procedures before and after replacing the PC I/F unit

1) Before replacing the PC I/F unit, write down the values for the parameters listed on the 2nd and 3rd pages of the Adjustment Process A screen.
If the values for the parameters cannot be written down because the PC I/F unit is completely broken or for any other reason, make all the adjustments in accordance with the paragraph for Adjustment procedure and parameters, rather than the following procedures. (End)
Set the parameters listed on the 2nd and 3rd pages of the Adjustment Process A screen to the values you have written down.

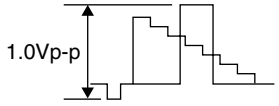
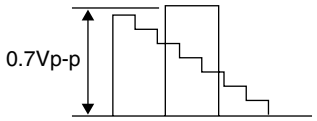
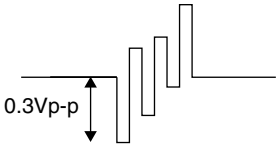
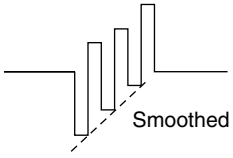
Adjustment parameters

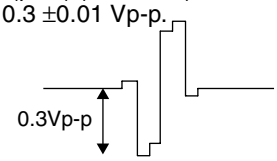
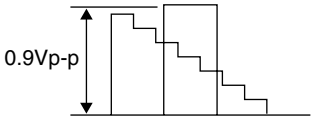
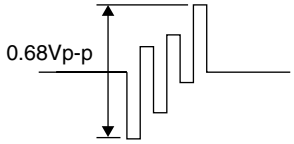
1) Analog adjustment

(1) Prior adjustment for AVC system chassis

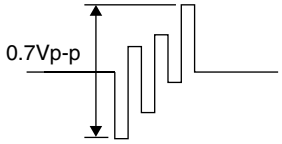
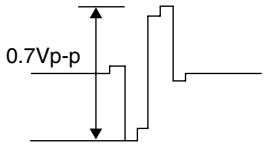
	Adjustment item	Description	Adjustment procedure
1	Process adjustment mode		Call the process adjustment mode.
2	AVC center 3.3V adjustment	Connect DC voltmeter to TP1702.	Adjust output voltage of DC/DC 3.3 V line to 3.25 ±0.01 V.
3	AVC center 2.5V adjustment	Connect DC voltmeter to TP1701.	Adjust output voltage of DC/DC 2.5 V line to 2.6 ±0.01 V.

(2) N358 signal adjustment

	Adjustment item	Description	Adjustment procedure
1	Setup		1. Receive the SPLIT FIELD color bar signal. white 100%, 75% color bar, modulation
2	Tuner level adjustment	• MAIN side • SUB side	1. Adjust the V-LEVEL (R1121) control so that the tuner output (TP1101) on the AV PWB (DUNTKA616) should be 1.0 ±0.02 Vp-p. 2. Adjust the V-LEVEL (R1219) control so that the tuner output (TP1201) on the AV PWB (DUNTKA616) should be 1.0 ±0.02 Vp-p. 
3	MAIN N358 Y CONTRAST adjustment		1. Adjust TB1274_MAIN output (pin (1) of P801) to 0.7 ±0.01 Vp-p. 
4	MAIN N358 COLOR GAIN adjustment		1. Adjust TB1274_MAIN output (pin (3) of P801) so that the level shown below should be 0.3 ±0.01 Vp-p. 
5	MAIN N358 TINT adjustment		1. Adjust TB1274_MAIN output (pin (3) of P801) so that the waveform should become as shown below. 

	Adjustment item	Description	Adjustment procedure
6	MAIN N358 Cr level adjustment		1. Adjust TB1274_MAIN output (pin (5) of P801) so that the level shown below should be 0.3 ±0.01 Vp-p. 
7	MAIN N358 CONTRAST adjustment	Peak ACL: OFF Check DC Tran 01	1. Turn off the PEAK ACL control. Adjust the output (TP815) of IC810 to have 1.1 Vp-p from the pedestal level. Adjusted value: 1.1 ±0.02 V
		Press the TWIN PICTURE key.	1. Select the special TWIN PICTURE settings for adjustment (so that the same video source is reflected on MAIN/SUB).
8	SUB N358 Y LEVEL adjustment		1. Adjust TB1274_SUB output (TP806) to 0.9 ±0.02 Vp-p. 
9	SUB N358 COLOR GAIN adjustment		1. Adjust TB1274_SUB output (TP805) so that the level shown below should be 0.68 ±0.01 Vp-p. 

(3) Component 15 kHz signal adjustment

	Adjustment item	Description	Adjustment procedure
1	Setup		1. Select the component 15 kHz source (100% white color bar signal).
2	COMPONENT 15 kHz Y level adjustment		1. Adjust TB1274_MAIN output (pin (1) of P801) to 0.7 ±0.01 Vp-p.
3	COMPONENT 15 kHz COLOR GAIN adjustment		1. Adjust TB1274_MAIN output (pin (3) of P801) so that the level shown below should be 0.7 ±0.01 Vp-p. 
4	COMPONENT 15 kHz Cr level adjustment		1. Adjust TB1274_MAIN output (pin (3) of P801) so that the level shown below should be 0.7 ±0.01 Vp-p. 

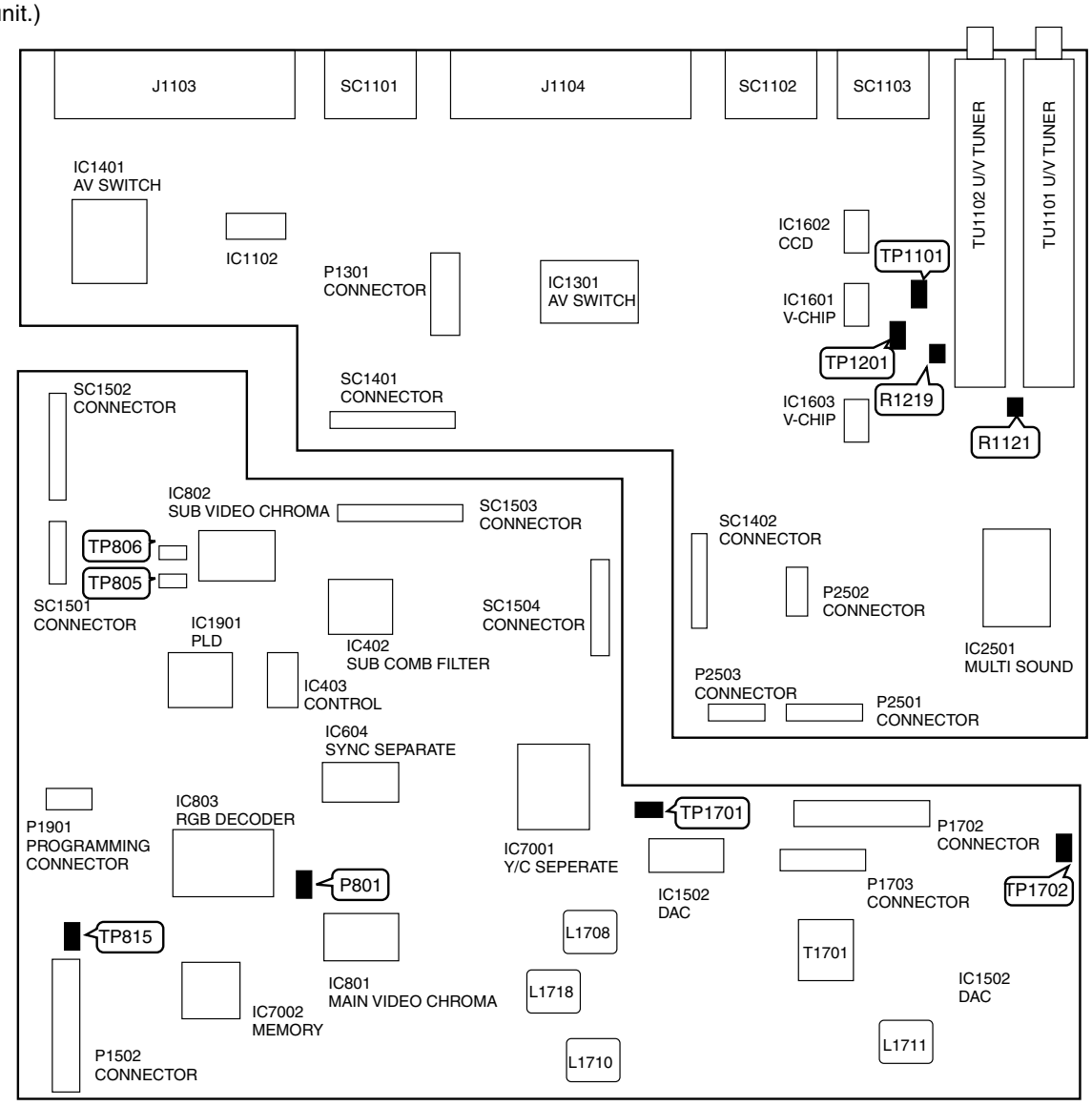
(4) Component HDTV signal adjustment

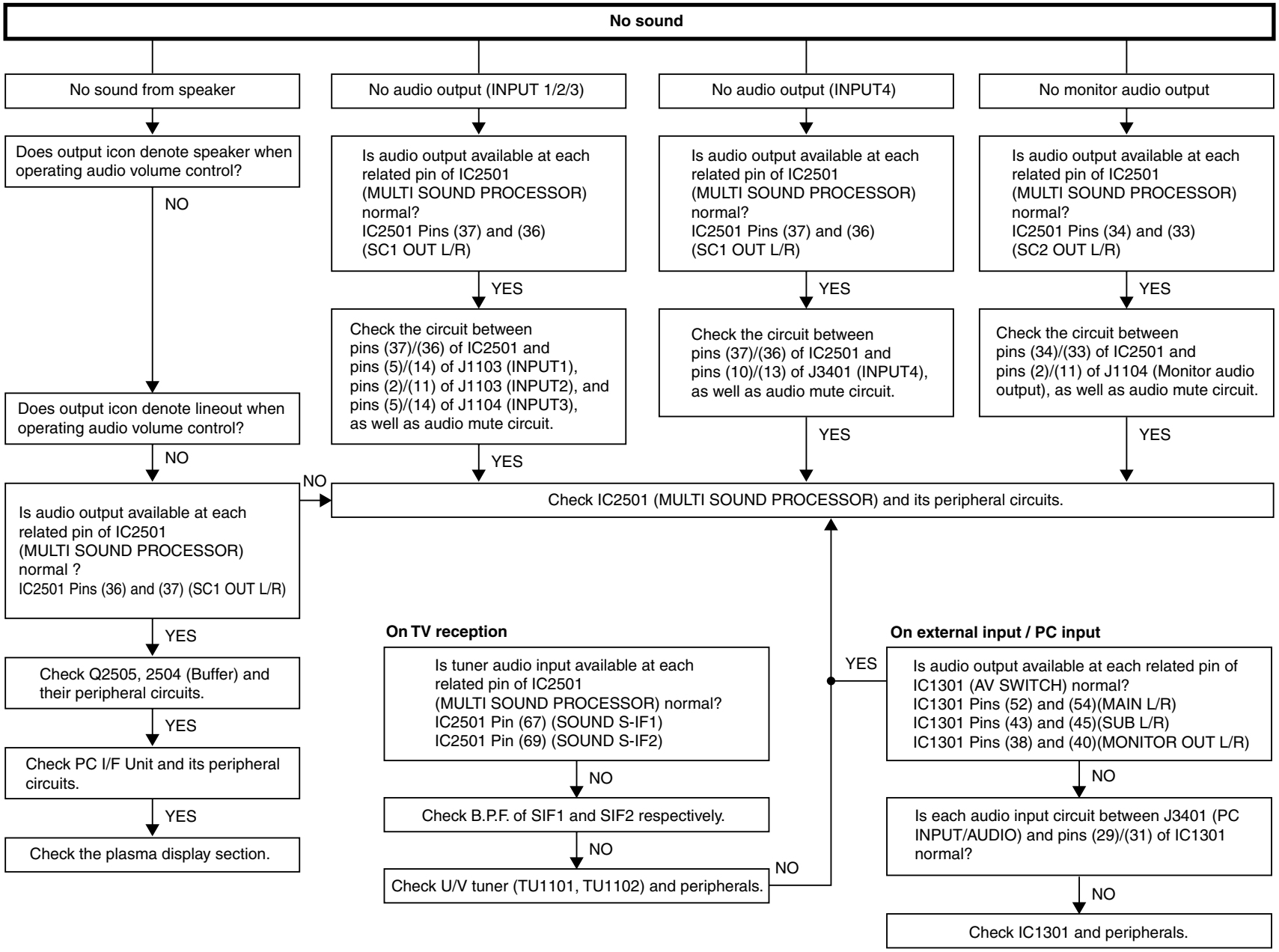
	Adjustment item	Description	Adjustment procedure
1	Setup		1. Select the component HDTV source (100% white color bar signal).
2	COMPONENT HDTV CONTRAST adjustment	Peak ACL: OFF	1. Turn off the PEAK ACL control. Adjust the output (TP815) of IC810 to have 1.1 ±0.02 Vp-p from the pedestal level.

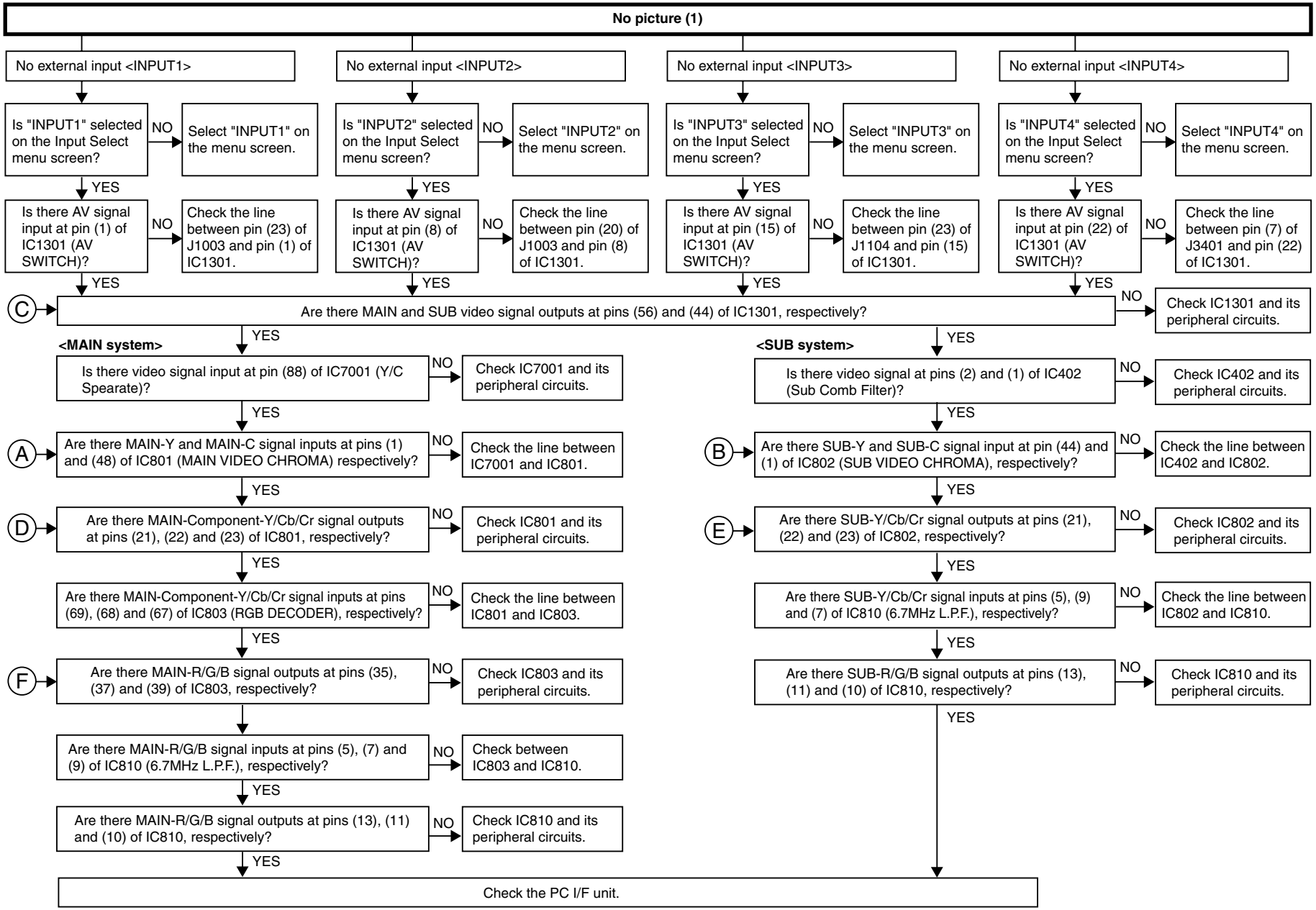
2. Factory settings

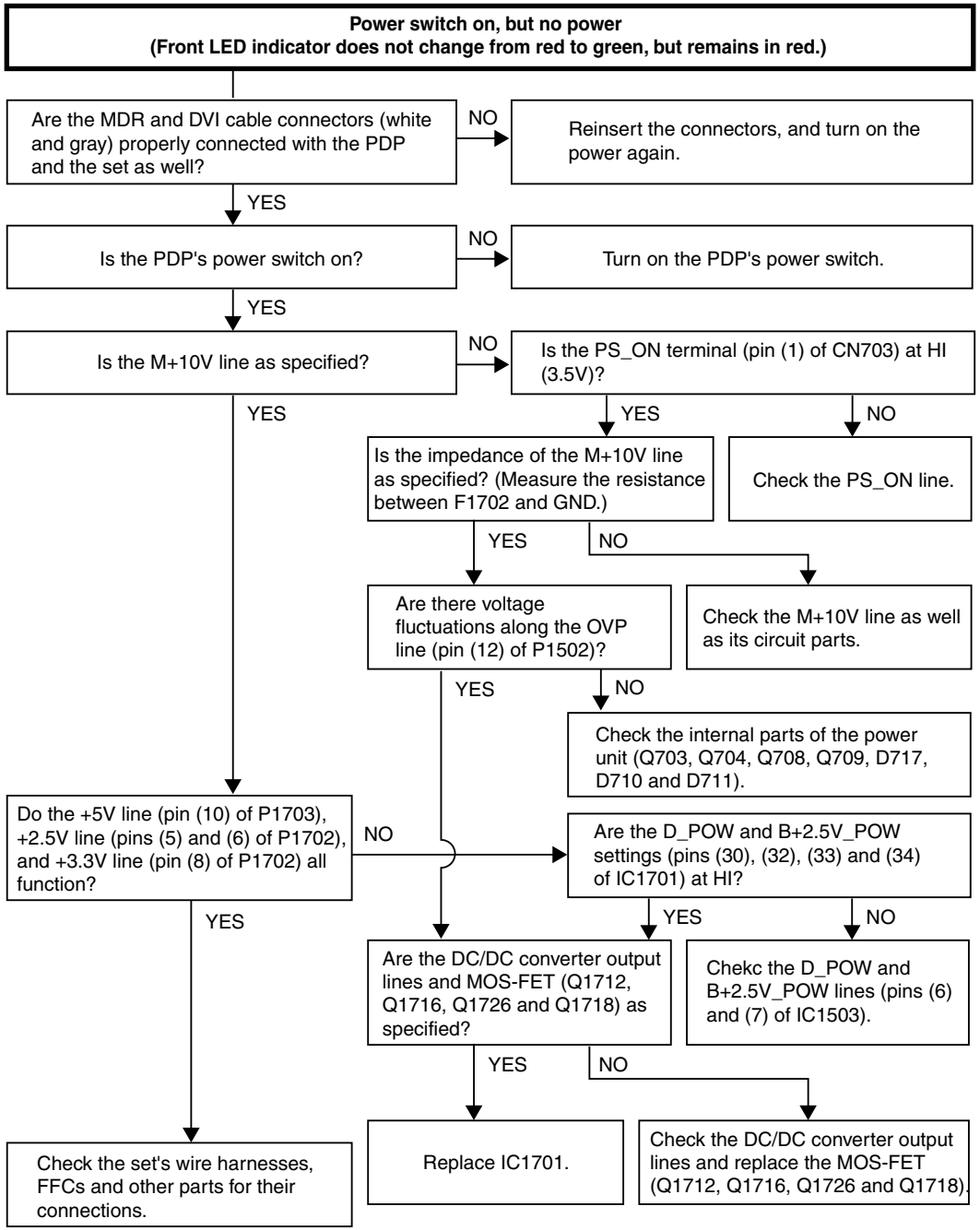
	Adjustment item	Description	Adjustment procedure
1	INDUSTRY INIT		Check the PEAK ACL is "ON" and DC Tran is "00". Press the Delivery Setup key on the remote controller. Or position the cursor on the INDUSTRY INIT line, set the line to ON with the VOL key, and then press the ENTER key. The adjustment is finished when the line turns OFF.

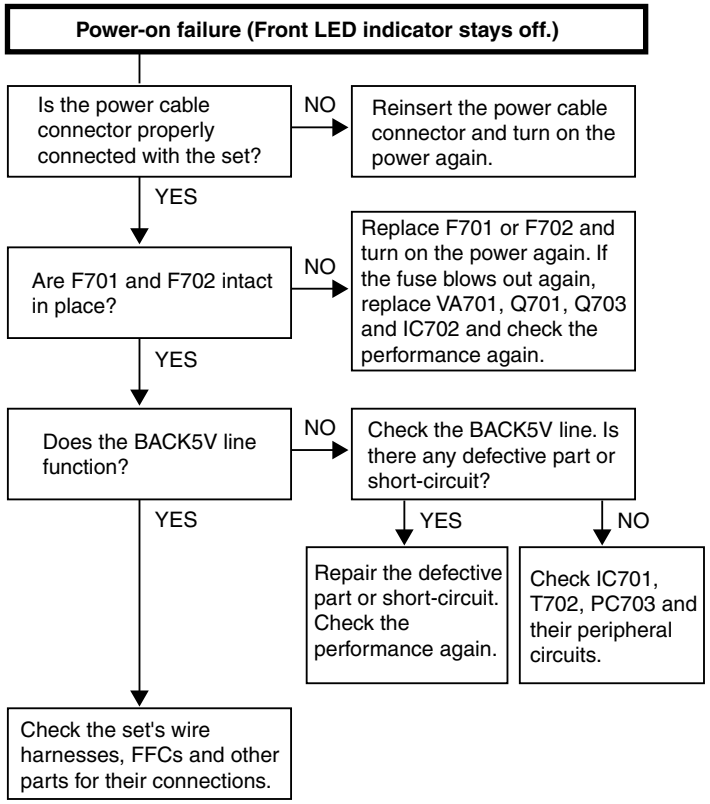
Then turn off the AC power supply of the AVC System. (Be careful not to use the power switches of the remote controller and panel unit.)

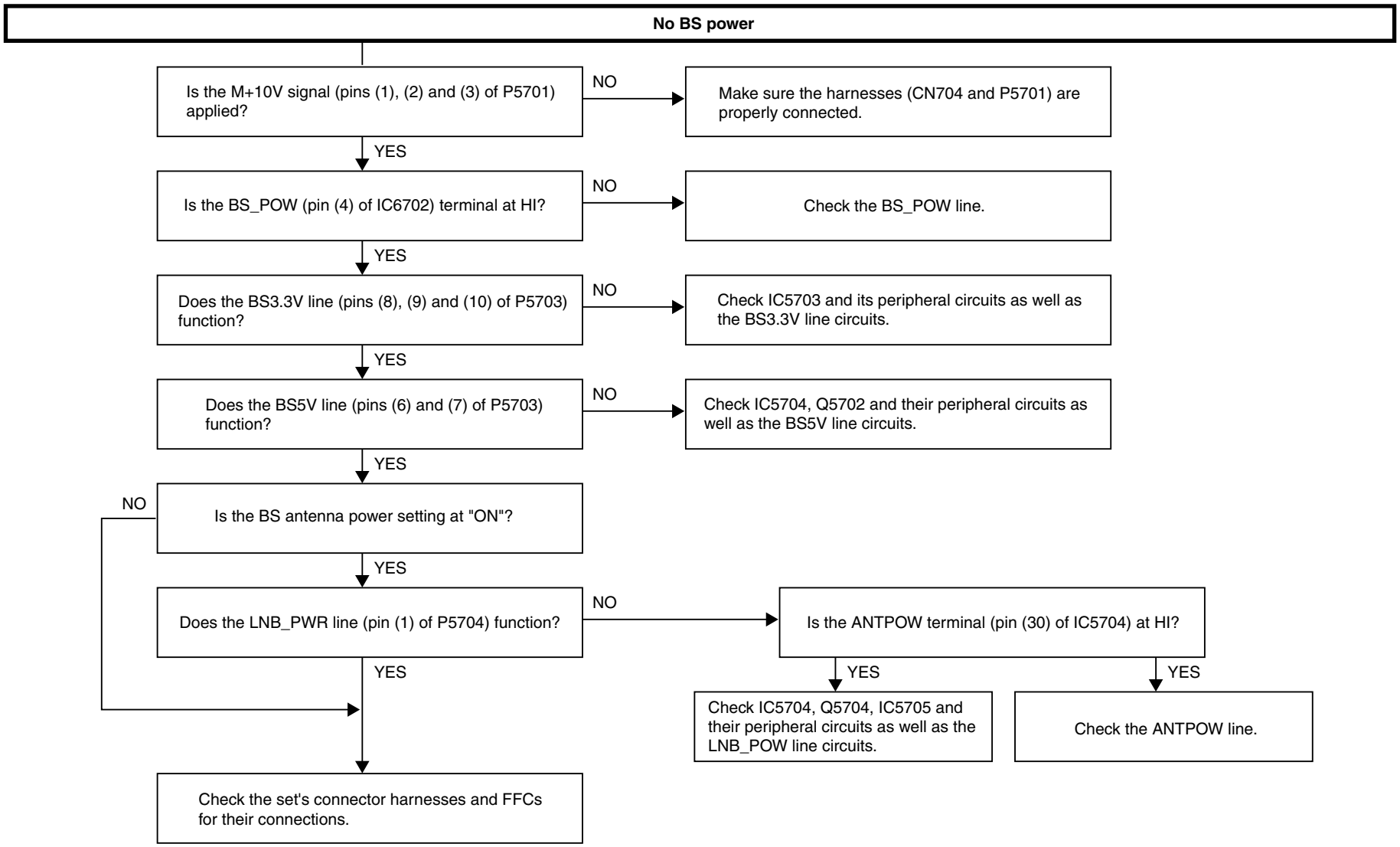


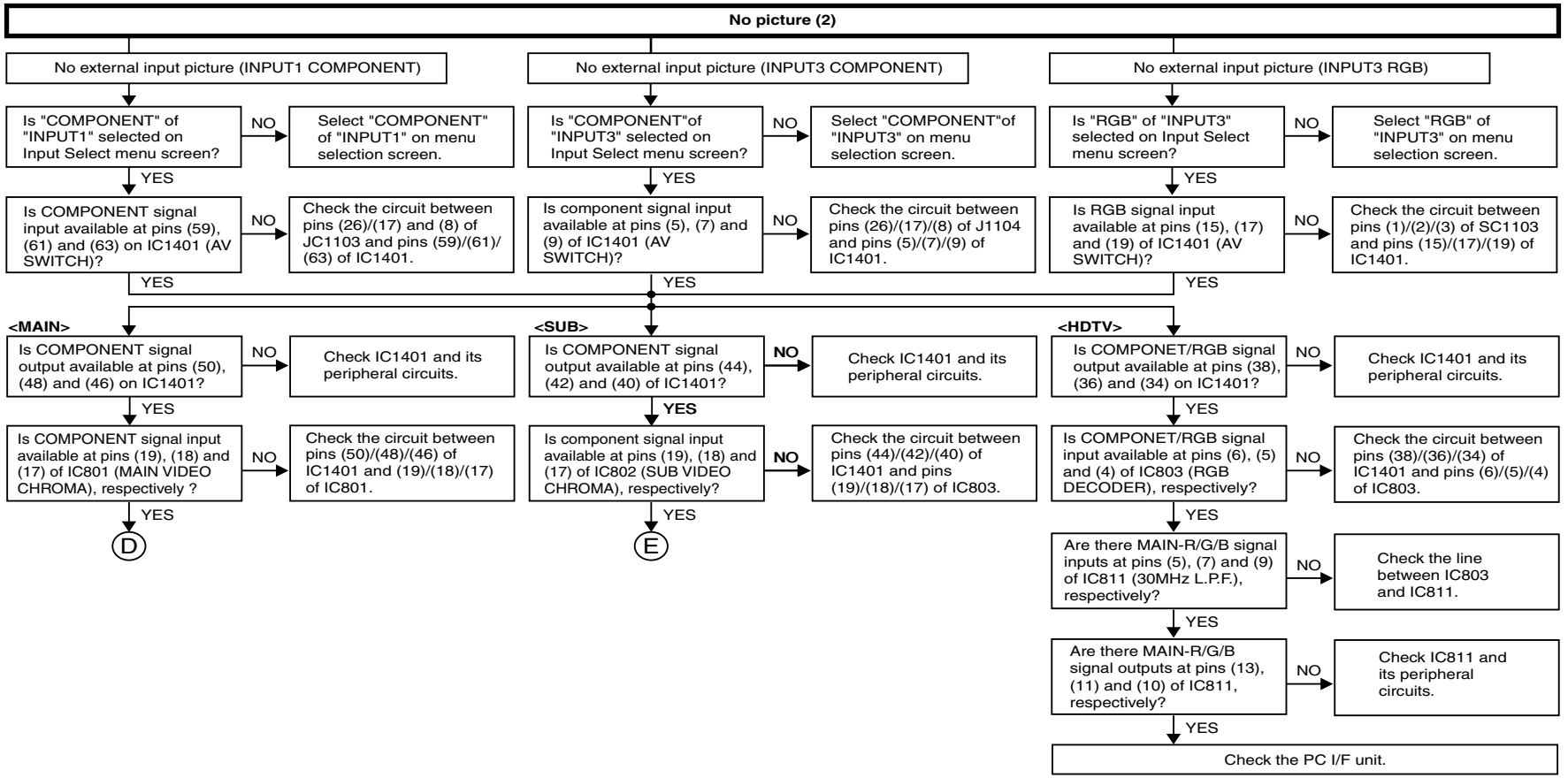

No sound
No sound from speaker
Does output icon denote speaker when operating audio volume control?
NO
Does output icon denote lineout when operating audio volume control?
NO
Is audio output available at each related pin of IC2501 (MULTI SOUND PROCESSOR) normal ?
IC2501 Pins (36) and (37) (SC1 OUT L/R)
YES
Check Q2505, 2504 (Buffer) and their peripheral circuits.
YES
Check PC I/F Unit and its peripheral circuits.
YES
Check the plasma display section.
NO
No audio output (INPUT 1/2/3)
Is audio output available at each related pin of IC2501 (MULTI SOUND PROCESSOR) normal?
IC2501 Pins (37) and (36) (SC1 OUT L/R)
YES
Check the circuit between pins (37)/(36) of IC2501 and pins (5)/(14) of J1103 (INPUT1), pins (2)/(11) of J1103 (INPUT2), and pins (5)/(14) of J1104 (INPUT3), as well as audio mute circuit.
YES
No audio output (INPUT4)
Is audio output available at each related pin of IC2501 (MULTI SOUND PROCESSOR) normal?
IC2501 Pins (37) and (36) (SC1 OUT L/R)
YES
Check the circuit between pins (37)/(36) of IC2501 and pins (10)/(13) of J3401 (INPUT4), as well as audio mute circuit.
YES
No monitor audio output
Is audio output available at each related pin of IC2501 (MULTI SOUND PROCESSOR) normal?
IC2501 Pins (34) and (33) (SC2 OUT L/R)
YES
Check the circuit between pins (34)/(33) of IC2501 and pins (2)/(11) of J1104 (Monitor audio output), as well as audio mute circuit.
YES
Check IC2501 (MULTI SOUND PROCESSOR) and its peripheral circuits.
On TV reception
Is tuner audio input available at each related pin of IC2501 (MULTI SOUND PROCESSOR) normal?
IC2501 Pin (67) (SOUND S-IF1)
IC2501 Pin (69) (SOUND S-IF2)
NO
Check B.P.F. of SIF1 and SIF2 respectively.
NO
Check U/V tuner (TU1101, TU1102) and peripherals.
NO
On external input / PC input
YES
Is audio output available at each related pin of IC1301 (AV SWITCH) normal?
IC1301 Pins (52) and (54)(MAIN L/R)
IC1301 Pins (43) and (45)(SUB L/R)
IC1301 Pins (38) and (40)(MONITOR OUT L/R)
NO
Is each audio input circuit between J3401 (PC INPUT/AUDIO) and pins (29)/(31) of IC1301 normal?
NO
Check IC1301 and peripherals.

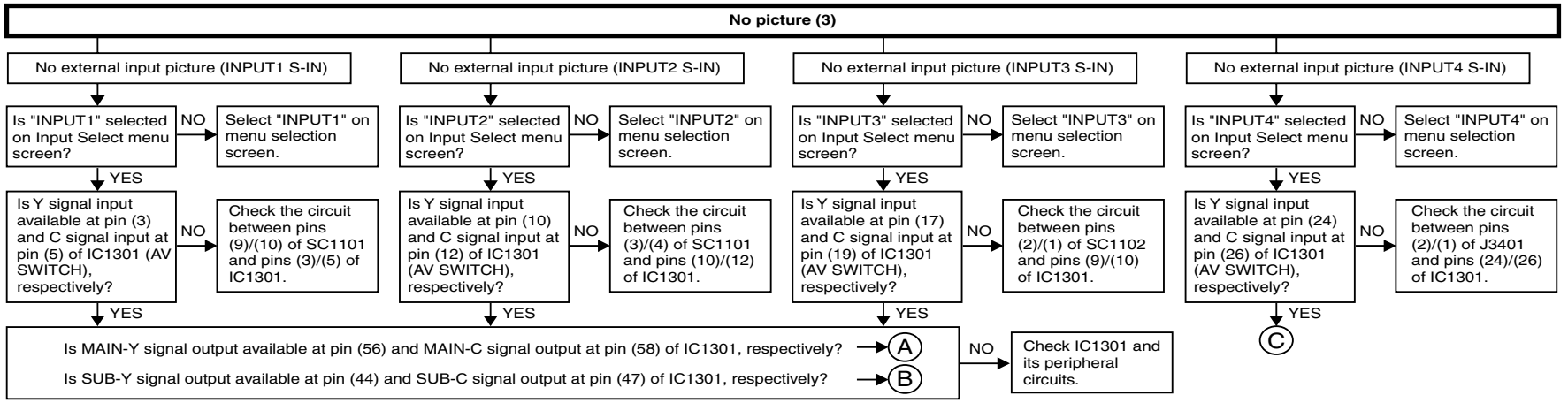

No picture (1)
No external input <INPUT1>
Is "INPUT1" selected on the Input Select menu screen?
NO
Select "INPUT1" on the menu screen.
YES
Is there AV signal input at pin (1) of IC1301 (AV SWITCH)?
NO
Check the line between pin (23) of J1003 and pin (1) of IC1301.
YES
No external input <INPUT2>
Is "INPUT2" selected on the Input Select menu screen?
NO
Select "INPUT2" on the menu screen.
YES
Is there AV signal input at pin (8) of IC1301 (AV SWITCH)?
NO
Check the line between pin (20) of J1003 and pin (8) of IC1301.
YES
No external input <INPUT3>
Is "INPUT3" selected on the Input Select menu screen?
NO
Select "INPUT3" on the menu screen.
YES
Is there AV signal input at pin (15) of IC1301 (AV SWITCH)?
NO
Check the line between pin (23) of J1104 and pin (15) of IC1301.
YES
No external input <INPUT4>
Is "INPUT4" selected on the Input Select menu screen?
NO
Select "INPUT4" on the menu screen.
YES
Is there AV signal input at pin (22) of IC1301 (AV SWITCH)?
NO
Check the line between pin (7) of J3401 and pin (22) of IC1301.
YES
C
Are there MAIN and SUB video signal outputs at pins (56) and (44) of IC1301, respectively?
NO
Check IC1301 and its peripheral circuits.
YES
<MAIN system>
Is there video signal input at pin (88) of IC7001 (Y/C Spearate)?
NO
Check IC7001 and its peripheral circuits.
YES
A
Are there MAIN-Y and MAIN-C signal inputs at pins (1) and (48) of IC801 (MAIN VIDEO CHROMA) respectively?
NO
Check the line between IC7001 and IC801.
YES
D
Are there MAIN-Component-Y/Cb/Cr signal outputs at pins (21), (22) and (23) of IC801, respectively?
NO
Check IC801 and its peripheral circuits.
YES
Are there MAIN-Component-Y/Cb/Cr signal inputs at pins (69), (68) and (67) of IC803 (RGB DECODER), respectively?
NO
Check the line between IC801 and IC803.
YES
F
Are there MAIN-R/G/B signal outputs at pins (35), (37) and (39) of IC803, respectively?
NO
Check IC803 and its peripheral circuits.
Are there MAIN-R/G/B signal inputs at pins (5), (7) and (9) of IC810 (6.7MHz L.P.F.), respectively?
NO
Check between IC803 and IC810.
YES
Are there MAIN-R/G/B signal outputs at pins (13), (11) and (10) of IC810, respectively?
NO
Check IC810 and its peripheral circuits.
YES
<SUB system>
Is there video signal at pins (2) and (1) of IC402 (Sub Comb Filter)?
NO
Check IC402 and its peripheral circuits.
YES
B
Are there SUB-Y and SUB-C signal input at pin (44) and (1) of IC802 (SUB VIDEO CHROMA), respectively?
NO
Check the line between IC402 and IC802.
YES
E
Are there SUB-Y/Cb/Cr signal outputs at pins (21), (22) and (23) of IC802, respectively?
NO
Check IC802 and its peripheral circuits.
YES
Are there SUB-Y/Cb/Cr signal inputs at pins (5), (9) and (7) of IC810 (6.7MHz L.P.F.), respectively?
NO
Check the line between IC802 and IC810.
YES
Are there SUB-R/G/B signal outputs at pins (13), (11) and (10) of IC810, respectively?
NO
Check IC810 and its peripheral circuits.
YES
Check the PC I/F unit.

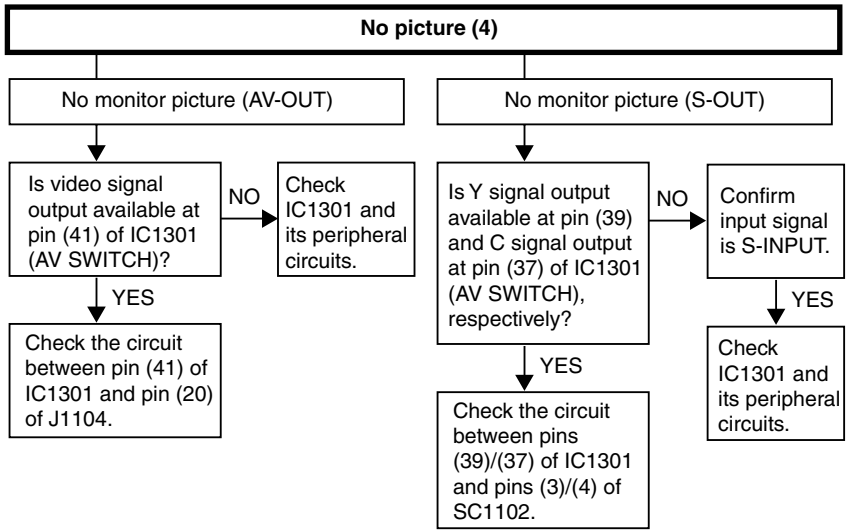

Power switch on, but no power
(Front LED indicator does not change from red to green, but remains in red.)
Are the MDR and DVI cable connectors (white and gray) properly connected with the PDP and the set as well?
NO
Reinsert the connectors, and turn on the power again.
YES
Is the PDP's power switch on?
NO
Turn on the PDP's power switch.
YES
Is the M+10V line as specified?
NO
Is the PS_ON terminal (pin (1) of CN703) at HI (3.5V)?
YES
NO
YES
Is the impedance of the M+10V line as specified? (Measure the resistance between F1702 and GND.)
Check the PS_ON line.
YES
NO
Are there voltage fluctuations along the OVP line (pin (12) of P1502)?
Check the M+10V line as well as its circuit parts.
YES
NO
Check the internal parts of the power unit (Q703, Q704, Q708, Q709, D717, D710 and D711).
Do the +5V line (pin (10) of P1703), +2.5V line (pins (5) and (6) of P1702), and +3.3V line (pin (8) of P1702) all function?
NO
Are the D_POW and B+2.5V_POW settings (pins (30), (32), (33) and (34) of IC1701) at HI?
YES
YES
NO
Are the DC/DC converter output lines and MOS-FET (Q1712, Q1716, Q1726 and Q1718) as specified?
Chekc the D_POW and B+2.5V_POW lines (pins (6) and (7) of IC1503).
YES
NO
Check the set's wire harnesses, FFCs and other parts for their connections.
Replace IC1701.
Check the DC/DC converter output lines and replace the MOS-FET (Q1712, Q1716, Q1726 and Q1718).

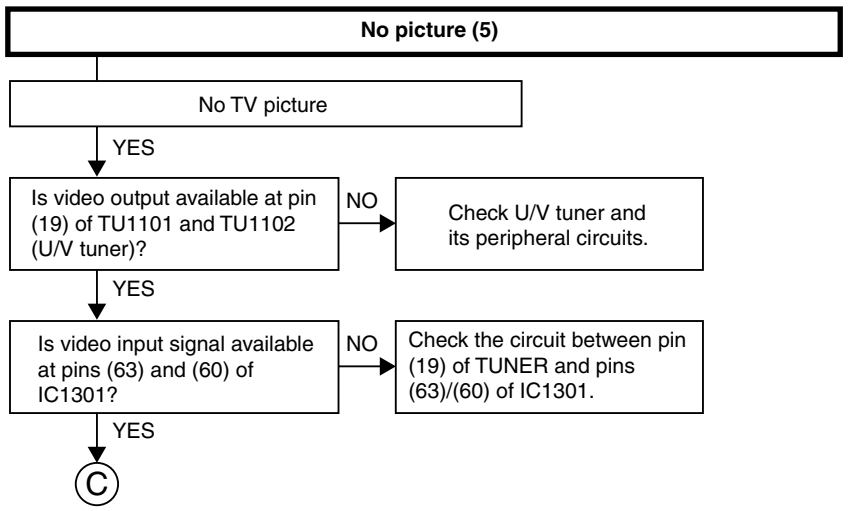

Power-on failure (Front LED indicator stays off.)
Is the power cable connector properly connected with the set?
NO
Reinsert the power cable connector and turn on the power again.
YES
Are F701 and F702 intact in place?
NO
Replace F701 or F702 and turn on the power again. If the fuse blows out again, replace VA701, Q701, Q703 and IC702 and check the performance again.
YES
Does the BACK5V line function?
NO
Check the BACK5V line. Is there any defective part or short-circuit?
YES
NO
YES
Repair the defective part or short-circuit. Check the performance again.
Check IC701, T702, PC703 and their peripheral circuits.
Check the set's wire harnesses, FFCs and other parts for their connections.

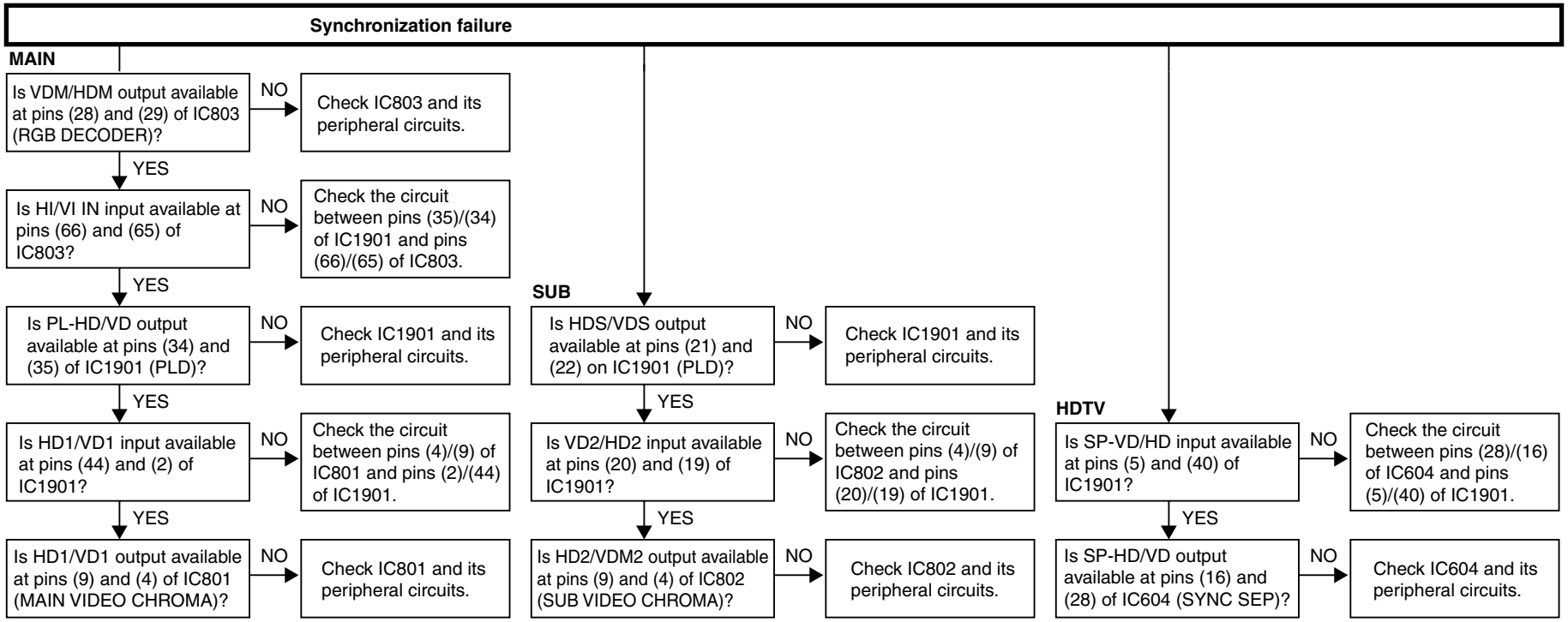

No BS power
Is the M+10V signal (pins (1), (2) and (3) of P5701) applied?
NO
Make sure the harnesses (CN704 and P5701) are properly connected.
YES
Is the BS_POW (pin (4) of IC6702) terminal at HI?
NO
Check the BS_POW line.
YES
Does the BS3.3V line (pins (8), (9) and (10) of P5703) function?
NO
Check IC5703 and its peripheral circuits as well as the BS3.3V line circuits.
YES
Does the BS5V line (pins (6) and (7) of P5703) function?
NO
Check IC5704, Q5702 and their peripheral circuits as well as the BS5V line circuits.
YES
Is the BS antenna power setting at "ON"?
NO
YES
Does the LNB_PWR line (pin (1) of P5704) function?
NO
Is the ANTPOW terminal (pin (30) of IC5704) at HI?
YES
Check IC5704, Q5704, IC5705 and their peripheral circuits as well as the LNB_POW line circuits.
YES
Check the ANTPOW line.
YES
Check the set's connector harnesses and FFCs for their connections.

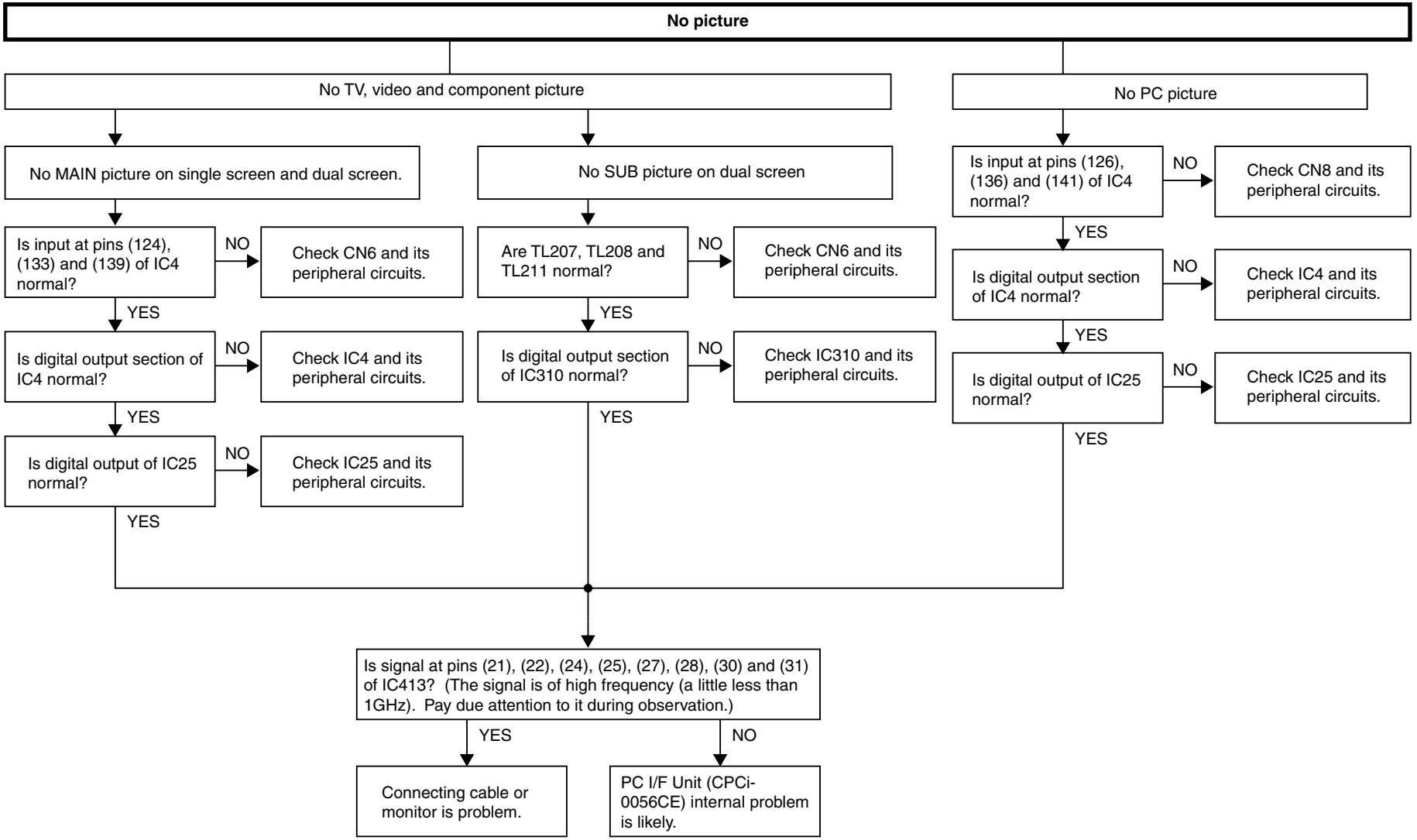

No picture (2)
No external input picture (INPUT1 COMPONENT)
No external input picture (INPUT3 COMPONENT)
No external input picture (INPUT3 RGB)
Is "COMPONENT" of "INPUT1" selected on Input Select menu screen?
NO
Select "COMPONENT" of "INPUT1" on menu selection screen.
YES
Is "COMPONENT"of "INPUT3" selected on Input Select menu screen?
NO
Select "COMPONENT"of "INPUT3" on menu selection screen.
YES
Is "RGB" of "INPUT3" selected on Input Select menu screen?
NO
Select "RGB" of "INPUT3" on menu selection screen.
YES
Is COMPONENT signal input available at pins (59), (61) and (63) on IC1401 (AV SWITCH)?
NO
Check the circuit between pins (26)/(17) and (8) of JC1103 and pins (59)/(61)/(63) of IC1401.
YES
Is component signal input available at pins (5), (7) and (9) of IC1401 (AV SWITCH)?
NO
Check the circuit between pins (26)/(17)/(8) of J1104 and pins (5)/(7)/(9) of IC1401.
YES
Is RGB signal input available at pins (15), (17) and (19) of IC1401 (AV SWITCH)?
NO
Check the circuit between pins (1)/(2)/(3) of SC1103 and pins (15)/(17)/(19) of IC1401.
YES
<MAIN>
Is COMPONENT signal output available at pins (50), (48) and (46) on IC1401?
NO
Check IC1401 and its peripheral circuits.
YES
Is COMPONENT signal input available at pins (19), (18) and (17) of IC801 (MAIN VIDEO CHROMA), respectively ?
NO
Check the circuit between pins (50)/(48)/(46) of IC1401 and (19)/(18)/(17) of IC801.
YES
D
<SUB>
Is COMPONENT signal output available at pins (44), (42) and (40) of IC1401?
NO
Check IC1401 and its peripheral circuits.
YES
Is component signal input available at pins (19), (18) and (17) of IC802 (SUB VIDEO CHROMA), respectively?
NO
Check the circuit between pins (44)/(42)/(40) of IC1401 and pins (19)/(18)/(17) of IC803.
YES
E
<HDTV>
Is COMPONET/RGB signal output available at pins (38), (36) and (34) on IC1401?
NO
Check IC1401 and its peripheral circuits.
YES
Is COMPONET/RGB signal input available at pins (6), (5) and (4) of IC803 (RGB DECODER), respectively?
NO
Check the circuit between pins (38)/(36)/(34) of IC1401 and pins (6)/(5)/(4) of IC803.
YES
Are there MAIN-R/G/B signal inputs at pins (5), (7) and (9) of IC811 (30MHz L.P.F.), respectively?
NO
Check the line between IC803 and IC811.
YES
Are there MAIN-R/G/B signal outputs at pins (13), (11) and (10) of IC811, respectively?
NO
Check IC811 and its peripheral circuits.
YES
Check the PC I/F unit.


No picture (3)
No external input picture (INPUT1 S-IN)
No external input picture (INPUT2 S-IN)
No external input picture (INPUT3 S-IN)
No external input picture (INPUT4 S-IN)
Is "INPUT1" selected on Input Select menu screen?
NO
Select "INPUT1" on menu selection screen.
YES
Is "INPUT2" selected on Input Select menu screen?
NO
Select "INPUT2" on menu selection screen.
YES
Is "INPUT3" selected on Input Select menu screen?
NO
Select "INPUT3" on menu selection screen.
YES
Is "INPUT4" selected on Input Select menu screen?
NO
Select "INPUT4" on menu selection screen.
YES
Is Y signal input available at pin (3) and C signal input at pin (5) of IC1301 (AV SWITCH), respectively?
NO
Check the circuit between pins (9)/(10) of SC1101 and pins (3)/(5) of IC1301.
YES
Is Y signal input available at pin (10) and C signal input at pin (12) of IC1301 (AV SWITCH), respectively?
NO
Check the circuit between pins (3)/(4) of SC1101 and pins (10)/(12) of IC1301.
YES
Is Y signal input available at pin (17) and C signal input at pin (19) of IC1301 (AV SWITCH), respectively?
NO
Check the circuit between pins (2)/(1) of SC1102 and pins (9)/(10) of IC1301.
YES
Is Y signal input available at pin (24) and C signal input at pin (26) of IC1301 (AV SWITCH), respectively?
NO
Check the circuit between pins (2)/(1) of J3401 and pins (24)/(26) of IC1301.
YES
C
Is MAIN-Y signal output available at pin (56) and MAIN-C signal output at pin (58) of IC1301, respectively?
A
Is SUB-Y signal output available at pin (44) and SUB-C signal output at pin (47) of IC1301, respectively?
B
NO
Check IC1301 and its peripheral circuits.


No picture (4)
No monitor picture (AV-OUT)
Is video signal output available at pin (41) of IC1301 (AV SWITCH)?
NO
Check IC1301 and its peripheral circuits.
YES
Check the circuit between pin (41) of IC1301 and pin (20) of J1104.
No monitor picture (S-OUT)
Is Y signal output available at pin (39) and C signal output at pin (37) of IC1301 (AV SWITCH), respectively?
NO
Confirm input signal is S-INPUT.
YES
Check IC1301 and its peripheral circuits.
YES
Check the circuit between pins (39)/(37) of IC1301 and pins (3)/(4) of SC1102.


No picture (5)
No TV picture
YES
Is video output available at pin (19) of TU1101 and TU1102 (U/V tuner)?
NO
Check U/V tuner and its peripheral circuits.
YES
Is video input signal available at pins (63) and (60) of IC1301?
NO
Check the circuit between pin (19) of TUNER and pins (63)/(60) of IC1301.
YES
C


Synchronization failure
MAIN
Is VDM/HDM output available at pins (28) and (29) of IC803 (RGB DECODER)?
NO
Check IC803 and its peripheral circuits.
YES
Is HI/VI IN input available at pins (66) and (65) of IC803?
NO
Check the circuit between pins (35)/(34) of IC1901 and pins (66)/(65) of IC803.
YES
Is PL-HD/VD output available at pins (34) and (35) of IC1901 (PLD)?
NO
Check IC1901 and its peripheral circuits.
YES
Is HD1/VD1 input available at pins (44) and (2) of IC1901?
NO
Check the circuit between pins (4)/(9) of IC801 and pins (2)/(44) of IC1901.
YES
Is HD1/VD1 output available at pins (9) and (4) of IC801 (MAIN VIDEO CHROMA)?
NO
Check IC801 and its peripheral circuits.
SUB
Is HDS/VDS output available at pins (21) and (22) on IC1901 (PLD)?
NO
Check IC1901 and its peripheral circuits.
YES
Is VD2/HD2 input available at pins (20) and (19) of IC1901?
NO
Check the circuit between pins (4)/(9) of IC802 and pins (20)/(19) of IC1901.
YES
Is HD2/VDM2 output available at pins (9) and (4) of IC802 (SUB VIDEO CHROMA)?
NO
Check IC802 and its peripheral circuits.
HDTV
Is SP-VD/HD input available at pins (5) and (40) of IC1901?
NO
Check the circuit between pins (28)/(16) of IC604 and pins (5)/(40) of IC1901.
YES
Is SP-HD/VD output available at pins (16) and (28) of IC604 (SYNC SEP)?
NO
Check IC604 and its peripheral circuits.


No picture
No TV, video and component picture
No PC picture
No MAIN picture on single screen and dual screen.
No SUB picture on dual screen
Is input at pins (124), (133) and (139) of IC4 normal?
NO
Check CN6 and its peripheral circuits.
YES
Are TL207, TL208 and TL211 normal?
NO
Check CN6 and its peripheral circuits.
YES
Is input at pins (126), (136) and (141) of IC4 normal?
NO
Check CN8 and its peripheral circuits.
YES
Is digital output section of IC4 normal?
NO
Check IC4 and its peripheral circuits.
YES
Is digital output section of IC310 normal?
NO
Check IC310 and its peripheral circuits.
YES
Is digital output section of IC4 normal?
NO
Check IC4 and its peripheral circuits.
YES
Is digital output of IC25 normal?
NO
Check IC25 and its peripheral circuits.
YES
Is digital output of IC25 normal?
NO
Check IC25 and its peripheral circuits.
YES
YES
Is signal at pins (21), (22), (24), (25), (27), (28), (30) and (31) of IC413? (The signal is of high frequency (a little less than 1GHz). Pay due attention to it during observation.)
YES
NO
Connecting cable or monitor is problem.
PC I/F Unit (CPCi-0056CE) internal problem is likely.

IC DESCRIPTIONS

• Description of Main ICs

• IC1301 (CXA2069Q)
This IC is a 7-input, 3-output selector.
The video signals other than those for the PC and components, which have been input from each input connector and the tuner, and all the audio signals are sent to the IC1301 and then selected.
The video signals sent to the IC1301 are then input to the YC separation circuits, IC7001 (main) and IC402 (sub).
The audio signals are input to the PC I/F Unit via IC2501 (sound processor).

• IC1401 (MM1519XQ)
This IC is a 4-input, 3-output video selector for component input.
The VIDEO-1/3 Y/Pb/Pr signals, RGB component input and TV signal are input to the IC1401. The output signals go to the main, sub, and component channels.

• IC2501 (IX3370CE)
This IC is used to decode audio signals.
It serves as both the S-IF decoder and the selector for the input audio data.

• IC801/IC802 (TB1274AF)
This IC is intended for color TV brightness, chroma demodulation and sync processing.
It receives the main and sub brightness signals and color signals from IC7001 (main) and IC402 (sub) in the preceding stage, and gives out color difference signals.

• IC803 (CXA2101Q)
With a high-performance picture correction circuit incorporated, this IC consists of a base band video signal processing section for color difference input and a video switch (including HV sync signal processing).
Input selection is performed by INPUT-SEL (IIC BUS). The Y/Pb/Pr signals of Y/Cb/Cr/HD and their respective HV sync signals are input to each line.
As the multi-scanning compliance range, a horizontal scanning frequency of 15-60 kHz can be input.

• IC1901 (IXA194WJ)
This IC is FPGA for the synchronizing system.
It creates sand castle pulses for IC803 and generates horizontal blanking signals.

• IC604 (TA1318AF)
This IC synchronizes TV component signals.
The IC604 incorporates the necessary functions for measuring the frequency of input signals and synchronous replay into a single chip, and is applicable for horizontal synchronous replay (15.75, 31.5, 33.75, and 45 kHz) and vertical synchronous replay (525I, 525P, 625I, 750P, 1125I, 1125P, PAL 100 Hz, and NTSC 120 Hz).

• IC7001 (PD64082)
Through 3-dimensional NTSC signal processing, the PD64082 performs high-precision Y/C separation for main video signals sent from the IC1301.
In combination with a 4Mbit EDO (Hyper Page Mode) DRAM, this IC forms 3-dimensional Y/C separation and YNR/CNR system.

• IC402 (CXD2093Q)
This IC is a comb filter in the applicable field. Being a single high-precision Y/C chip, the 3-line comb filter performs the Y/C separation of the sub channel video signals that have been output from IC1301.

• IC804/IC810 (IX3473CE)
The IC804 is a 6.7 MHz low-pass filter, incorporating a 6 dB amplifier, for the sub screen.
The IC810, on the other hand, is a 6.7 MHz low-pass filter, also incorporating a 6 dB amplifier, for the main screen (for SDTV).

• IC811 (IX3474CE)
This IC is a 30 MHz low-pass filter, incorporating a 6 dB amplifier, for the main screen (for HDTV).

• Description of Functions of Main ICs on PC I/F Unit

• IC4 (CXA3506R)

This IC is an A/D converter that incorporates a 3-channel, 8-bit, 120 MSPS amplifier and PLL. It is used for the video signals input to the I/F board on the main channel in the 1-screen and 2-screen modes, and also for the video signals input from the front for the PC.
The video signals (analog RGB) from the CN6 are input to IN1 of IC4.
For the PC, the video signals (analog RGB) from CN8 are input to IN2 of IC4.
The input video signals are converted into digital signals and then sent to IC25.

• IC310 (TLC5733A)

This IC is a 3-channel, 8-bit, 20 MSPS A/D converter.
It is used for the sub-channel of the video signals input to the PC I/F Unit in the 2-screen mode.
The video signals (analog Y, Cb, Cr) from CN6 are input to IC310.
The video signals input to this IC are converted into digital signals and then sent to IC25.

• IC25 (IX3434CE)

This IC performs the I/P conversion and scaling to match the digitalized video with the output resolution, and also the data conversion.
It has two input lines, V0 and V1. The V0 line is used to process the RGB, composite, and skirt signals input to the 480i and 580i components for the sub-channel in the 2-screen mode. The V1 line is used to process all the signals as well as V1 for the main channel in the 1-screen and 2-screen modes.
The IC25 detects what resolution is input from the input synchronizing signal; creates H synchronization in accordance with the frequency division ratio; creates the clamp signal in accordance with the input synchronizing signal; and performs the data matrix conversion.
The video signals input to this IC is sent to IC413.

• IC413 (SiL168)

This IC is a panel link transmitter.
It converts the 8-bit RGB video data output from IC25 into the differential TMDS signals and then digitally transmits the converted signals to the monitor.
The TMDS signals are transmitted at the frequency 10 times higher than the clock frequency.

• IC1 (IX3270CE)

This IC is a 1-chip RISC microprocessor.
It performs communication with the monitor and operates the system.
The IC1 also controls each IC in the AVC System and partially manages the power source.

• IC405 (uPD4721)

This IC is an RS-232 line driver receiver conforming to the EIA/TIA-232-E standard.
The IC405, when connected to a PC, allows for externally controlling the system.
It is also applicable for upgrading IC1.

• IC1701 (FA3675CE)

This IC is designed to control the 6-channel PWM switching regulator.
With 5 step-up switching regulator lines incorporated, the IC converts +10V to +2.5V, +3.3V and +5.8V.
Also with a step-down switching regulator line incorporated, the IC converts +10V to +6.0V, -5.0V, +12V and +35V.
The lines are individually turned on and off.

• IC1602 (Z86129S)

The Z86129S is built in the TV decoder circuit and serves to process the vertical blanking interval (VBI) data that has come from the video signal field of the data corresponding to the transmission format defined by EIA-608.
The data flowing along Line 21 is composed of the data of some multiplexed data channels.
Field 1 has 4 data channels: 2 caption channels and 2 text channels.
Field 2 has 5 additional data channels: 2 caption channels, 2 text channels and expansion data service (XDS) channel. On any of these 9 data channels, the data transmitted can be recovered and displayed.

• IC1601/IC1603 (Z86230S)

The Z86230S functions for the process expansion data service (XDS) in Field 2 during the vertical blanking interval (VBI).
The XDS data is processed in order to specify the Program Blocking (PB) signal or recovered XDS data packets.
The on-chip XDS filter in the Z86230S enables to recover the XDS data packets only for programming.
The Z86230S is compatible with monitors (Picture-In-Picture) for violence blocking and other XDS data service.

Specifications

Item	50″ Plasma Display, Model: PDP-503PU	43″ Plasma Display, Model: PDP-433PU
Number of Pixels	1280×768 pixels	1024 × 768 pixels
Audio Amplifier	12 W + 12 W (1 kHz, 10 %, 8 Ω)	12 W + 12 W (1 kHz, 10 %, 8 Ω)
Surround System	SRS/FOCUS/SRS + FOCUS	SRS/FOCUS/SRS + FOCUS
Power Requirement	120 V AC, 60 Hz, 370 W (0.6 W Standby)	120 V AC, 60 Hz, 318 W (0.6 W Standby)
Dimensions	1218 (W) × 714 (H) × 98 (D) mm (47 31/32 (W) × 28 1/8 (H) × 3 7/8 (D) inch)	1070 (W) × 630 (H) × 98 (D) mm (42 1/8 (W) × 24 13/16 (H) × 3 7/8 (D) inch)
Weight	38.9 kg (85.8 lbs.)	31.5 kg (69.4 lbs.)
Accessories	Power cord, Cleaning cloth, Three speed clamps, Three bead bands, Warranty card	Power cord, Cleaning cloth, Three speed clamps, Three bead bands, Warranty card

Item			Media Receiver, Model: PDP-R03U
Reception System			American TV standard NTSC system
TV Function	Circuit type		Video signal detection PLL full synchronous detection, PLL digital synthesizer system
	Tuner	VHF/UHF	VHF 2–13ch, UHF 14–69ch
		CATV	1–125ch
	Audio multiplex		BTSC system
Terminals	Rear	INPUT 1	S-VIDEO in, AV in, COMPONENT in
		INPUT 2	S-VIDEO in, AV in
		INPUT 3	S-VIDEO in, AV in, COMPONENT in, RGB in
		Antenna	75 Ω UNBAL, F Type for VHF/UHF/CATV in
	Front	INPUT 4	S-VIDEO, AV in
		PC	15 Pin mini D-Sub, Audio in
Monitor Out Terminal		Rear	S-VIDEO out, AV out, Audio (Variable, Fixed)
OSD Language			English/French/Spanish
Other Features			Picture & Picture, Still image, Dual Tuner System
Power Requirement			120 V AC, 60 Hz, 40 W (0.2 W Standby)
Dimensions			420 (W) × 70 (H) × 330 (D) mm (16 9/16 (W) × 2 25/32 (H) × 13 (D) inch)
Weight			4.4 kg (9.7 lbs.)
Accessories			Power cord, Remote control unit, Two AA size batteries, System cable, Operating instruction

• Design and specifications are subject to change without notice.